

SQUATTER SETTLEMENTS IN TRIPOLI, LIBYA: ASSESSING, MONITORING, AND  
ANALYZING THE INCIDENCE AND PREVALENCE OF URBAN SQUATTER AREAS IN  
THE PERI-URBAN FRINGE

By

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Philosophy.

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## **Abstract**

As a developing country, Libya has been dominated by a high rate of urbanization since it became an independent state in 1951, with vast improvements in all aspects of life. This phenomenon brought domination of some cities, such as Tripoli and Benghazi. Therefore, in a country with multiple large cities that “pull” migrants in, people have more than one choice of a final urban destination. Where urban primacy exists, this puts additional strain on that single primate city, encouraging people to migrate, often before the necessary infrastructure is in place. As a result of that movement, Tripoli has experienced the appearance of informal areas, and particularly squatter settlements, since the late 1980s. This phenomenon has had many negative impacts for Tripoli and its vicinity. This phenomenon has evolved to become a chronic problem. As a response to this problem, governmental efforts have been made to address and mitigate the situation through conducting planning schemes and housing policies and strategies. Despite those efforts and strategies, the success rate has been low, due to many factors.

The ambition of this dissertation is to identify insights concerning the factors that led to the incidence and the prevalence of the squatter settlements. In this dissertation, a critical qualitative method included face to face interviews. The analysis pointed out the presence of multiple potential factors that contributed in the emergence and prevalence of the phenomenon. These factors are represented in the weakness of planning institutions in applying the planning policies, failure of planning schemes, corruption and bureaucracy, administrative instability, intensive state intervention, political transformation, and socioeconomic changes. All combined factors accelerated the incidence and thus manifested the prevalence of this phenomenon.

In addition to the qualitative analysis, I performed quantitative analysis of multi-temporal Landsat images. Unsupervised image classification was performed in order to provide insight

about unlawful urban sprawl that spread outside the planned areas due to limited arable land. Finally, this dissertation gives several recommendations for creating sustainable planning and finding an urgent appropriate solution to reduce the impact of the phenomenon.

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## Chapter 1: Introduction

### Preface

Most recent studies see informal settlements primarily as manifestations of the urbanization process. In many developing countries, the appearance of informal settlements such as slums and squatter settlements came as a result of a failure of how to deal with the phenomenon of rapid urbanization. Indeed, squatter settlements are among the most widespread impacts of urbanization in both the poor and wealthy world. The researchers in this field have started to adopt specific criteria to differentiate between formal and informal housing characteristics in order to facilitate management and to decrease the socio-economic gap between housing areas. In his book *African Cities* (2011) Myers tried to differentiate between the two sectors in terms of their economic characteristics. He saw “the informal sector as an autonomous, unregulated, often illegal, small-scale, low technology arena,” while the formal sector is characterized by “regulated, legal, waged, and often larger scale, higher-technology, legal work” (Myers, 2011, p. 71).

United Nations Habitat (2010) has a related classification of the informal settlements type, termed a “slum,” which is defined by the presence of any of five conditions of deprivation in squatter settlements, such as lack of access to improved water, improved sanitation, a sufficient living area, durable housing, and tenure security (UN-HABITAT, 2010). Squatter settlements are distinct from slums only in that they are classified as residential areas created via illegal or semi-legal urban practices or unauthorized subdivisions of land invasions. They are commonly located in the peri-urban fringe or urban periphery. Typically in these areas, people build their housing units in agreement with the land owner without formal permission from the local planning authority and with ignorance of building standards and criteria (UNHSP, 2003).

In the global context, it is almost inevitable in many scholarly studies that there will be slippage between terms, such as slums, squatter settlements, and informal settlements. In the Libyan context, scholars, planning officials, and ordinary people use the terms, "slums," "informal settlements" and "squatter settlements" to describe the case study areas on the outskirts of Libyan cities, particularly Tripoli, the city most affected by this phenomenon. Based on that approach, the phrase "squatter settlements" is the best term used as a formal title in this study and as a general classification for these types of illegal housing areas in the informal sector. This choice came in accordance with differences that characterize the study area of Tripoli from what exists in neighboring countries as well as the rest of the African continent. For instance, the housing conditions do not typically contain the sort of deprivations which define a "slum" according to the UN-Habitat. Although technically many land transactions and housing construction processes are "informal" in the Tripoli study areas, the areas themselves bear little resemblance to the common informal settlements across most of Africa. With the generally higher standard of physical construction and the lack of deprivation, these peri-urban or suburban areas are found to be more similar to the large-scale suburban squatter-apartment zones common to some cities in developed countries cities such as Paris or Rome.

Squatter settlements are often seen as inevitable results of the urbanization phenomenon spread out in most developing countries. This was the particular case in Africa after countries gained their independence and faced slight improvements in their national economies. Libya, one of these African countries, has confronted the appearance of slum areas in most of its large cities, particularly those located along the coastline such as Tripoli and Benghazi. However, government efforts sought to eliminate these settlements during the 1970s in order to earn the confidence of



the people at the beginning of Libya's revolutionary era under its former dictator, Moammar Gadhafi (1969-2011).

The squatter settlements phenomenon was first noticed in the late 1980s, and it exactly synchronized with the implementation of what is commonly referred to in Libya as the second generation planning stage (1981-2000). This situation continued until recent years and accelerated particularly during the so called Arab Spring (2011). This phenomenon came into existence as a result of demographic changes and as a physical manifestation of many urban processes. The latest political changes in the country as a result of the so-called Arab Spring also are addressed in this dissertation as a manifestation of the spreading of squatter settlements in the total absence of government authorities. These processes contributed to the appearance of sub-standard neighborhoods in general and sub-standard housing in particular. This situation also resulted in the absence of basic services, such as drainage and sanitation, paved roads, public drinking water systems, garbage disposal, and electricity supply. As a result of the accumulation of this situation through decades, the problem became so enormous recently that even the efforts to find solutions at the urban level have ceased.

This dissertation reviews the main approaches of dealing with the squatter neighborhoods with an eye toward assessing the causes and consequences of their development. This study also examines factors that contribute to the existence and spread of squatter settlements. Consequently, the results of this study are expected to provide a general idea for improving the spatial and environmental conditions of the squatter areas, which would lead to the creation of a balance between the planned areas and unplanned areas of the city. This balance is anticipated to promote betterment of environmental conditions and provide services, safety, and welfare for urban areas

as a whole. Therefore, this research specifically helps to develop key recommendations that are based on awareness of what has happened in reality.

These recommendations also provide a methodology for how to upgrade the areas through intensified efforts from involved, competent and relevant officials. Finally, these outcomes certainly could lead to sustainable solutions. These solutions are in great need to help policy makers and stakeholders in Libya to deal with and mitigate the problem of squatter settlements that threaten large cities in the country. One of these cities is Tripoli; indeed it is the place most threatened by squatter settlements. The city has a high population of origin, and natural growth has pushed some of its population into the periphery. The city also attracts a high number of rural emigrants to the periphery, so that housing conflicts are rampant. These issues are a core concern of my research, a concern that can be addressed only if we figure out the causes and consequences of this phenomenon. These factors make Tripoli the perfect place for my research.

### **Research Hypotheses and Questions**

This dissertation is based on the following hypotheses. First, the squatting phenomenon over the past two decades became noticed and intensified around the city of Tripoli based on the failure of government policies and civil society's inability to provide affordable housing to cover increasing demand. Second, there are substantial urban land use and land cover changes in Tripoli's urban fringe as a result of squatters. Third, based on the previous hypotheses we can draw the following hypothesis that the rate of the change is particularly high since 1980, which marked a high point for population growth and rural-urban migration. Regardless of any other land cover classes, the built up area has expanded horizontally in all directions, particularly to the area along and in the proximity of the network of major roads in the periphery. Fourth, the appearance of these communities might exceed the purpose of searching for cheaper land to accommodate their

families. For instance, rural migrants sometimes move to the urban periphery to secure better services or education or other issues. Finally, the main hypothesis that my study relies on and must be addressed is that many residents in squatter areas are not poor, and not all squatter-area residents are newcomers or rural-to-urban migrants. Therefore, there is no relationship between the situation of squatter areas and level of wealth. In order to frame the analysis, the following research questions are included and addressed:

- 1- What are the root causes of the appearance of squatter settlements in Tripoli's suburban areas in spite of the existence of formal housing plans and planning regulations? Who are the main agents and actors?
- 2- What are the roles of the existing planning institutions and the dwellers in eliminating this phenomenon in Libyan society?
- 3- Did existing planning standards in Libya fulfill the requirements of the future expansion of the cities?
- 4- To what extent is the third planning project expected to contribute to overcoming the squatter problems?
- 5- How has access to adequate housing remained a problem despite all planning projects implemented so far?

## **Research Outline**

This dissertation is organized into six main chapters, where each chapter coherently investigates an issue related to the study areas and the problem. Chapter 1 acts as an introductory chapter to provide a bridged overview of the study and its objective, purpose and significance. It elucidates what this study is about and how it was conducted to accomplish its objectives. The

chapter starts with a definition of the phenomenon under research. This chapter also emphasizes the methods used in carrying out the study.

Chapter 2 reviews literature related to urbanization and its impacts, such as the squatter phenomenon, in order to establish a theoretical framework for this dissertation. This chapter also determines and identifies the main concepts underlying the squatter settlements in developing countries, with more emphasis on northern African countries and the Libyan context in particular. Chapter 3 stresses the context of Libya in general and introduces Tripoli as the setting of this case study in particular in terms of geographical location, climate condition, political transformation, socio-economic evolution, population growth, and physical evolution of the city. Chapter 4 provides an overview about the existing planning and housing policies and stages. In addition, this chapter focuses on how these terms impact the formulation and implementation of the policies and plans of the state.

Chapter 5 is an exploratory chapter that tries to examine the key elements of the causes and the consequences of the incidence and prevalence of the squatter settlements through analysis and discussion of multiple interviews and opinions and the outcome of the field work conducted in the study areas. This chapter also identifies the major agents and actors involved in the appearance of this phenomenon. In addition, this chapter aims to show how a decision support system, such as remote sensing and geographic information systems, can elucidate to what extent the phenomenon is spread over the arable land in the vicinity of Tripoli city.

Chapter 6 concludes and synthesizes the major findings drawn from the discussion of previous chapters. This chapter also offers recommendations that would mitigate and control the existing situation and make state officials more responsive to the importance and increase their awareness of the gravity of the situation. In addition to the above, this section reviews the main

obstacles and problems encountered by the researcher in all processes of this research. Finally, it shows the importance and continuity of future studies of the phenomenon of squatter settlements in order to enrich public opinion about the negative impact of this phenomenon and how to find solutions.

### **Statement of the Problem**

Libya is often considered one of the most urbanized countries in the region, even though it has a low population density. Despite its low population, the country faced rapid urban growth in the last few decades since its independence in conjunction with the discovery of crude oil. This discovery caused a dramatic change in all aspects of life. These changes impacted directly the urban structure of some cities, such as Tripoli. In addition, Tripoli is the city most affected by the squatter phenomenon, due to its high concentration of population, along with its physical characteristics as an attractive place for rural and other cities' immigrants.

In the 1970s and 1980s, the city experienced a period of highly accelerated population growth, from 615,151 in 1973 to 994,136 in 1984, an increase of 38.1% in a decade. Growth leveled off after this. By 1995, it had seen an increase to 1,059,000, a rate of 6.1%. In the 2006 census, the total population of the city reached a total of 1,065,405 inhabitants, an increase of only 0.6%. The decrease in the rate of population growth from 1995-2006 may be a result of a decrease in fertility rates and the movement of people back and forth from the urban centers and the countryside. They have been attracted particularly to areas located in the southern and eastern parts of the city, due to the shortages of housing and shortages of land in existing urban areas. As a result, people trying to find less densely settled areas such as suburban areas as a result of its remoteness from urban centers (Jusoh, 2011).

The UN-Habitat (2010) estimate of the city's population in 2010 was 1,108,000, which is a further increase of nearly 4% from 2006, suggesting the earlier slowing of growth may have reversed. However, this figure does not seem to include the urban fringe population. UN-Habitat estimated in 2008 that Tripoli's population might reach 2 million inhabitants. This estimation is more in line with the estimations of Libyan scholars; so it can be concluded that these suburban populations are not included in the 2010 figure. Even so, it seems clear that Tripoli itself experienced a rapid rate of growth, but this growth slowed to more manageable levels over the last ten to fifteen years. The tendency toward rapid growth might be connected to spontaneous expansion, which resulted in the appearance and development of squatter settlements in the suburban areas of the city. Yet the squatter settlements appear to have blossomed even in the face of the slowed rate of growth in the city's population, generating one of the central areas of concern for me in this dissertation: exactly *what are* the root causes of squatter settlements in Tripoli? This puzzle leads me directly into my second area of concern: who are the agents and actors?

As one of the important northern African cities, Tripoli experienced the slum phenomenon before the emergence of squatter areas, because of dramatic changes in the social, political, and economic aspects prior to the exploration of crude oil. This movement included waves of mass rural-to-urban migration towards the big cities in general, especially to Tripoli. Thus, the slums came into view during the 1950s, 1960s and 1970s as a result of excessive rural-urban migration, in addition to the return of waves of Libyan migrants from neighboring countries (Jusoh, 2008). In the late 1970s the slum communities declined dramatically. The significant reduction in the areas of slums in major cities of the country was the result of enthusiastic and effective government programs designed to eliminate peripheral slums in the 1970s. Based on data in the UN-Habitat report on the *State of African Cities 2010*, Libya reduced its slum population, particularly those

located in periphery areas of its major cities, by 71% to ensure high levels of living for their citizens (UN-HABITAT, 2010).

Tripoli has also faced rampant physical expansion during the last few decades. As a result, new houses are being built by locals and new immigrants in the suburban areas, and the number and size of squatter settlements in Tripoli has increased gradually. These circumstances have intensified the number of unplanned neighborhoods and thus led to rapid horizontal expansion of the built-up area of the city. Similarly and comparable to what happened in other developing countries, Melesse (2005) states that this situation in turn caused increased costs in terms of providing an infrastructure and fundamental urban facilities. Thus, these circumstances can also reduce the possibility to upgrade the area in a short time (Melesse, 2005).

This expansion of Tripoli has not been controlled as it should have been by all levels of planning institutions in the country. In addition, most of the comprehensive plans prepared respectively at different times and by different planning companies and consultants have not been effective, and the proof of that is in the incidence of the phenomenon of squatter settlements adjacent to the main cities. The preparation and implementation of these plans are some of my dissertation concerns that could be addressed in future planning. This dissertation seeks an explanation of why these plans have not been fully implemented, particularly the second generation plan that covered the period 1981-2000.

Tripoli encountered the emergence of squatter settlements during the 1980s as a result of the absence of substantive aspects of planning, preparation, and implementation that played a prominent role in the re-emergence of informal areas. It is a major contention of my dissertation that many issues might lead to uncontrolled expansion of the footprint of the city. Thus, these issues also lead to the failure to effectively manage city growth. This situation created instability

and confusion in administrative decision-making and in the adoption of arbitrary decisions which led to population displacement following urban development (Jusoh, 2008). Finally, I argue that the main factors contributing to the emergence of the squatter phenomenon in Libya and in Tripoli in particular are linked to the dramatic changes and development in all aspects of life. For my research, I proposed to take Tripoli as a case study area since it is an optimal place for studying squatter problems due to a lack of information and the vast spread of squatter settlements in recent decades.

### **Objectives**

The main objectives of this dissertation are:

- 1- To evaluate, analyze and explore the prevailing causes and consequences of squatter settlements in Tripoli and its adjoining areas through the availability of both secondary and primary data, and to ascertain how different planning process, politics, economics, climate, and demography contributed to the incidence and prevalence of the phenomenon.
- 2- To examine the dissertation hypotheses and questions by gaining a conceptual view through interviews with squatters and representatives of planning institutions. In addition, the hypotheses and research questions were also examined by analyzing the data quantitatively to determine to what extent the squatter areas spread over valuable land.
- 3- To develop recommendations in order to address the phenomenon of squatter settlements in Libya and Tripoli in particular in an attempt to find solutions to the problem.

### **Research Methodology**

In designing a geographical research project there are many different possible approaches. The key is to take the broad range of geography and use it to one's advantage. Geographical research programs have steps and rules to help guide geographers to keep the research scientific.



Clifford, French, and Valentine (2010) presented these steps: “Formulation of the research problem, definition of hypothesis, determination of the type of data to be collected, collection of data, analysis and processing of the data, and stating conclusions” (p.7). In some aspects of geography, more particularly human geography, these steps are considered unnecessary, mostly applicable to a restricted range of subjects, and most human geographers reject or are skeptical of these approaches (Clifford et al., 2010; Shurmer-Smith, 2001). Yet they remain potentially useful in an applied project such as mine.

Research design is also quite important and results from steps we undergo as researchers. There are six typical steps, with the first being to determine which research questions should be asked. It is important because one needs to know the relevant theoretical and empirical literature on the topic. This leads to more focused research and more precise and logical research topics. The second step is to find the most applicable methods to utilize. This step is more open for researchers since methods have both strengths and weaknesses that must be considered. It should also be stated that primary sources are the best since it is data that has been collected directly by the researcher and is more reliable. Primary sources are also more likely to be current (up-to-date), and can be more specifically tailored to the research questions. The third step is to decide what kind of data should be provided and to think about how to manage it. Knowing what method to use is important but it is also equally important to know how to arrange and store the data in an effective and manageable way. The fourth step is to think about the practicalities and applicability of doing fieldwork. As stated previously, primary data are most important but one could use reliable data from a census without the researcher going into the field to collect similar data. The fifth step is to think about the ethical issues that need to be considered. Ethical issues need to be considered for every research project in all aspects of the research; this is for the wellbeing of the researcher and

the subject. The last step is to think and decide the form in which the research should be presented (Clifford et al., 2010; Shurmer-Smith, 2001).

**Data type.** In order to achieve the goals of this dissertation and examine its research hypotheses, certain research methods were applied. There are two kinds of methods applied in many types of research, namely quantitative and qualitative methods; each method's purpose should be consistent with the information or the nature of each study. My dissertation used both methods for many reasons; the qualitative approach was used most, because the main goal of my dissertation is to assess and analyze the causes and consequences of squatter settlements. This kind of research method tells the story about the emergence of this phenomenon and determines who are the agents and actors behind that. In addition, this approach evaluates the government and planning policies through face to face interviews. This method of research is optimal for reaching that goal by extracting different views regarding the subject. As noted by Hay, there are many types of qualitative research, including interviews (Hay, 2010). Many scholars such as Shurmer-Smith have demonstrated the validity of the interview as a qualitative research method. Shurmer-Smith (2001) also stated that "interviews are useful for getting people to state the normative values of the community." (p. 96) Relying on the above approach I conducted unstructured or semi-structured oral interviews in this dissertation.

In addition, the research also used a quantitative approach in order to furnish the project with descriptive statistical data through unsupervised classification of temporal satellite images and also to build a bridge to fill the gap of qualitative disadvantages. Hay (2010) argued that "this triangulation of methods and use of multiple methods are sometimes deemed as offering cross-checking of results in that they approach problems from different angles and use different

techniques” (p. 17) to that extent, both methods were applied based on the available data and the proposed hypothesis.

In this dissertation, two types of data sources were used: primary data and secondary data sources. The secondary data include data obtained from surveys, and documentary data. These data, such as socio-economic variables were obtained from archives, publications, and documents from different institutions and scholars involved in the planning process. In using this type of data, I employed both quantitative and qualitative critical policy analysis to analyze the impacts of plans and policies in the built environment.

Primary data such as interviews and field surveys were collected from the field in case study areas of Tripoli. Field interviews cover a representative sample of dwellers of squatter areas, academic experts, urban planners, and some people in charge of the planning process in Libya. The reason is to determine the causes and delineate the actors behind the appearance of squatter settlements. This step helped provide an answer to the question of the roots causes of the appearance of squatter settlements and the agents and the actors involved in this phenomenon.

The research used technical tools beside the theoretical approach for obtaining data. These electronic tools and techniques helped to document, analyze, visualize, and map some of the above data. These tools were used because my dissertation is an attempt to assess, detect, and analyze the causes and consequences of the squatter phenomenon and urban sprawl patterns of Tripoli over different time scales. In addition, my dissertation is concerned with studying and analyzing the alteration of land use and land cover outside the planned areas and how it turns into informal urban use. This was accomplished with an integrated application of geographic information systems (GIS) and remote sensing (RS) techniques that help the users to analyze spatial information in

concurrence with socio-economic data. Since it has developed and evolved, GIS has become an optimal basis for urban planning due to the complexity of the land-use situation of urban areas.

Remote sensing techniques included analyzing satellite images that provide data related to the physical state of the area as it changed with time. In addition, remote sensing techniques are able to facilitate image enhancement and image classification. Classification methods, particularly unsupervised, are capable of differentiating between built up areas and non-built up areas. It was used to detect the squatter agglomeration and to extract other meaningful information. The satellite images of the study area were processed with ERDAS Imagine. The satellite images were classified into built up and non-built areas, in order to visualize the spread of the phenomenon. My choice of these methods was guided by the following ideas:

- My dissertation covers and maps the squatter phenomenon on an agglomeration level, not creating precise data on a group of buildings or individual buildings.
- The techniques were applied in heterogenic suburban areas, particularly in the areas containing squatter settlements, taking into account the special needs of these areas in terms of handling data and techniques.
- Data collection and archival information, such as population data and temporal data were collected from urban planning agencies and other related institutions. In addition, data were collected from the field by interviewing squatter dwellers and planning officials in the state as mentioned previously.
- Satellite imagery with available resolution was one of the main data sources; in addition, image processing techniques (unsupervised classification) were intensively used to identify the spatial changes in built up areas outside the planned areas over the period. A study of

urban sprawl over a given time period was conducted to understand the underlying driving forces that entailed critical analysis of planning documents and implementation outcomes.

- Land use conversion was assessed in different parts to help understand the impact of the policies pursued.
- An overlaying extension in GIS technique was used in order to determine and facilitate the planned area and unplanned areas.

### **The Significance and Benefit of the Research**

This study has evolved as a result of the harsh reality of the lack of interest in planning matters and the growing problems caused by the emergence of the phenomenon of unlawful construction in most major cities in Libya, and particularly Tripoli. This problem has caused inadequacy of many vital needs, such as infrastructure facilities or waste management, and an increase in housing demand. In the last decade, efforts have been made by the government in order to manage the urban systems by conducting many comprehensive planning schemes in addition to short and long term housing strategies, but the phenomenon continue to persist.

However, as stated by Tettey (2005) the government used what is called “the firefighting technique” (p. 53) to solve the problem. In other words, the government ignored the problem until it happened, instead of preventing the problem. As a result of the shortages of studies conducted in Libya concerning the informal settlements, my dissertation is one of the few studies in this area in terms of digging deep into the root causes and consequences of this problem noticed in most large cities of Libya. This dissertation came from the urgent needs to alert both the highest and the most local authorities to the seriousness of the situation and the dimensions of the future impacts of this phenomenon.

The outcomes of this dissertation (as discussed further in the conclusion) include broader efforts to assess and analyze the phenomenon in order to enhance and create a balance between planned and unplanned areas in terms of planning and urban service delivery quality. In addition, this research substantiated an overview of the root causes and consequences of the appearance of squatter settlements throughout many decades, and sought to determine the actors behind the appearance of this phenomenon. I reflect on the relationship of squatter settlements on the overall quality of life in the city. I also put forward a set of recommendations that may form the basis for a sound approach to help the decision makers find the best solutions for dealing with it. Finally, I draw attention and identify the true image regarding the overall weaknesses of the government and local institutions to deal with the planning practice and thus the impact of this phenomenon.

### **Research Limitation and Obstacles**

This dissertation has provided an evaluative perspective on the prevalence and consequences of squatter settlements. Squatter settlements are considered to be a complex phenomenon, which I particularly noted during my struggle to get access to reliable data about them. As a direct consequence of dealing with the methods used to study this phenomenon such as interviews, this dissertation encountered certain limitations and obstacles that often have faced researchers in this area, equal to the size of the complexity of this phenomenon in terms of the homogeneity and lack of information and the accuracy of data available in the areas studied based on planning criteria and laws. With reference to the political and economic conditions in Libya represented in the war over power and influence that resulted in destruction of state institutions: unfortunately, these events coincided with my field work and interviews with a sample of squatters and urban planning officials in Libya. Accordingly, regrettably, because the interviewees had to be made anonymous, their voices are kept muted in the dissertation. My concern for their safety

and security meant that I could not allow their identities and character to show in the text.

Additionally, other problems which emerged when doing this work are as follows:

- The difficulty of getting in and out of the country of study, as a result of lack of security in the country and also difficulty in getting a visa to return to the United States.
- Unresponsiveness of some citizens and key figures in my interview, due to their loss of confidence after the bloody events that occurred in the country recently.
- Most of the key figures and employees were not in their places of work for fear of threats and kidnappings and extortion.
- The closure of most state institutions and the lack of security led to stealing most of the archives, and thus most of the information and documents of state were lost during this event.
- The shortages of previous studies that related to this phenomenon in Libya, which in turn made for further efforts from the researcher in order to obtain just basic data.

## **Chapter 2: Literature Review and Review of Associated Studies**

### **General Overview**

The literature on urbanization and its impact, such as squatter settlements in many countries of developing world, has grown to massive proportions. My objective in this review is to highlight key elements that emerge from a targeted set of studies regarding geographical, theoretical, or methodological reasons. Many earlier efforts to deal with the problem of urban spread and its impact were preoccupied with land cover and land use changes and how to detect them. The majority of these efforts were based on urban expansion models and the mapping of squatters. This literature review will consider what has been overlooked regarding the spread of this phenomenon and consider the causes and consequences of urban sprawl in Libya. In addition, these literature selections will emphasize that each country has a special nature in terms of the emergence and prevalence of this phenomenon.

This chapter provides a review of the literature framework underlying my research. This chapter starts with an overview of the first emergence and causes of urbanization in the world followed by relevant theoretical studies of urbanization and its impacts on developing countries. This chapter also reflects how each country or region deals with the phenomenon of informal settlements based on its unique cases. Next, this chapter discusses studies conducted in northern African countries regarding urbanization over many decades and its impact. Following that, this chapter looks at studies conducted in Libya and describes how it has been dealing with this phenomenon. It examines how Libya is different in terms of the emergence of urbanization and thus squatter settlements. It also probes how the political, economic, and environmental situation in Libya plays a significant role in the spreading of the squatter settlements.



Urbanization is currently considered to be a crucial social process. It has exploded since industrial activities became more complicated in developed countries, as well as in developing countries. It has become such an extensive phenomenon in the industrialized world that it can be acknowledged as an unavoidable concern for our globe; Brunn et al., (2008) stress that urbanization is a result of industrialization and has been linked with economic situations in developed countries.

Developed countries experienced this phenomenon after the emergence of the industrial revolution in the nineteenth century. Researchers such as Wyly (2012) point out that “industrialized nations in Europe and North America have passed through a recognizable pattern of urbanization: an S shaped curve, beginning slowly, moving sharply upward, and then leveling off” (p. 2). Wyly (2012) also stated that the United Kingdom was the first country in human history more of its population living in urban areas than in rural areas (Wyly, 2012). Conversely, Brunn et al., (2008) said that in what are often called developing countries, urbanization has taken place only partially due to industrial and economic growth. The urbanizing process occurred essentially as a result of an increasing of natural urban population, in addition to substantial rural-to-urban migration, which was often as much as or more than industrialization and sometimes in the absence of it (Brunn et al., 2008).

The reasons behind the occurrence of the urbanization process are debated among researchers in various urban studies disciplines. Tettey (2005) supports Brunn’s ideas in terms of the occurrence of urbanization in both worlds due to different reasons. He argues that the rate of urbanization in developed countries at the time they were developed is quite different from that in the developing countries where the migration from the rural to urban centers is the consequence of the urban pull, particularly in Europe and North America. However, urbanization in the

developing countries, particularly Africa, is a result of migration and the vast increase of the population's natural growth. Migration in these countries is attributable to rural push factors (Tettey, 2005).

Researchers such as Cheema and Ward (1993) propose different ideas about the urbanization phenomenon; they elucidate that in many places in the world, urbanization has been linked with the economic health of settlements; cities are vital to development. Settlements and cities are considered centers of production and innovation, and likewise, centers of the labor force and employment. In some cases, urban areas in such countries comprise only one-third of the total population. However, this portion of the population produces two-thirds of the total national production. These contributions of the cities in developing countries are, therefore, inseparable from economic growth. The future of economic growth and the importance of urban economics, in particular, will rely on the ability of cities and urban agglomerations to utilize vital services and production functions (Cheema & Ward, 1993).

Regardless of the benefits of urban economies for countries, the rapid spread of urbanization resulted in the unplanned expansion of cities, which subsequently led to the emergence of a number of other negative consequences, such as informal settlements. These negative externalities have been prevalent in many developing countries, mainly due to economic, environmental, and political considerations. Lawton argues that the majority of cities in developing countries are growing horizontally, because the population is spreading to unplanned areas on the fringe of the cities, at the expense of areas designated for the purpose of agriculture and the preservation of the natural environment (Lowton, 1997).

In addition, unplanned and unrestrained growth of cities has affected those countries in direct ways; examples include soil erosion, segregation of low-income groups in ecologically

sensitive areas, and increased costs in terms of infrastructure provision. Hardoy et al. (2001) indicated that the rapid physical expansion in most cities in developing countries is not because of land shortage, but is a result of the lack of appropriate strategies and policies in different planning levels to conduct new development. This is in light of the fact that overcrowding takes place in particular areas of the city while large amounts of land are left vacant or only partially developed in other areas (Hardoy, Mitlin, & Satterthwaite, 2001).

As a response to the consequences of urbanization, most developed countries use various methods that were mainly developed for detecting and tackling the changes of urban areas and their peripheries. Conversely, these models, which were applied in developed countries, might vary slightly from urban growth patterns in developing countries. They also might differ from country to country within the same region, which exactly reflects the situation of the northern African countries in spite of their common characteristics. Focusing on northern African countries is important for this study because of their proximity to Libya and the existence of similarity in terms of the emergence of urbanization and informal settlements (squatters and slum areas) through different periods. In addition, the other pertinent issue is that the northern African countries share several elements between each other, such as demographic, economic, historical, and geographical characteristics. Finally, northern African countries, while sharing some trends or features with sub-Saharan African and Southwest Asian cases, are distinct enough in other ways from these other regions in terms of the urbanization process that they warrant separate consideration for internal comparison. These literature samples depict issues that typify the strengths and the weaknesses of northern African urban policies and how the region's countries each dealt with urbanization and its consequences, focusing mainly the spread of squatter settlements and slum communities.

### **The Experience of Urbanization and Urban Sprawl in Developing Countries**

The primary negative impact of urbanization is the fast spread of urban areas into agricultural and woodlands areas, often informally in developing countries. Few portions of developing countries have not been afflicted by this phenomenon due to the acceleration of urbanization. In fact, this study has its origin from the increasing awareness that developing countries experienced a dramatic spread of informal settlements as a result of this phenomenon. In the last century, developing countries have faced enormous population movements from rural to urban centers that polarized their main cities. Most countries suffered from the dominance of their largest cities, an issue to be controlled that costs these governments a large share of their national economy. In other words, these states give a priority to investments in those cities which in turn encourage the flow of large numbers of people to settle in them. These consequences cause the emergence of informal settlements and thus cost the treasuries of those countries in order to find solutions for those settlements.

Conversely, to some extent a few developing countries have succeeded in decreasing the dominance of their primate cities, while the others fail to reach the goals as a result of many factors such as economic and political situations. Wyly (2012) believes that “governments have followed misguided or politically corrupt policies that make rural life unbearable, thereby encouraging excessive rural-to-urban migration” (p.12). Tettey (2005) argues that many problems such as insufficient infrastructure, poor waste management, and failure to provide affordable housing are associated with the urbanization process. The urbanization manifested from these problems is so large that poor developing countries are not able to eradicate or control the impact of phenomena, such as urban sprawl, while developed countries continue to battle the issues associated with it (Tettey, 2005).

A major trait of the last century is urban transformation, which has led to major cities facing enormous growth as a result of urbanization. One characteristic of this phenomenon is urban sprawl that has been occurring in most, if not all, major cities either in developed or developing countries. Morelli et al. (2010) clearly stress the importance of the study of the urban sprawl phenomenon. They state that this phenomenon of urban diffusion over an area is becoming a debatable issue and argue that it applies to topics in different disciplines, such as environmental, ecological, economical, geographical, urban planning, and sociological sciences. As urban sprawl might affect all areas of life, urgent actions are needed to control this problem; this can be done by focusing on different subjects of study in order to overcome this phenomenon particularly in developing countries (Morelli & Salvati, 2010).

As a reaction to the vast increase of urban sprawl, many studies were conducted in the developing world in order to figure out how to eliminate or to mitigate the impacts of this phenomenon since its first occurrence. Melesse (2005) and Demirtaş (2009) stated that most developing countries experienced the phenomenon of squatter settlements, which began developing during the late 1940s in some countries. Some of the first squatter settlements of this contemporary type became visible in Istanbul, Turkey (Demirtaş, 2009; Melesse, 2005). Fernandes and Varley (1998) stated that this new manifestation of squatter settlements became known as “squatting (Gecekondu) and unauthorized subdivision (bisseli tapu),” (p. 56) which means “landed by night” This term refers to the idea that people built, completed, and inhabited their housing units during the night time in order to avoid demolition and any charges from the government (Melesse, 2005). This situation is in fact typical of what happened and is still happening in many developing countries and Libya in particular.

Melesse (2005) also determined that the appearance of squatter settlements in Addis Ababa, Ethiopia, emerged as a result of many factors, such as the delay of the implementation of legal housing, the rise of rent costs, delays of providing legal land provisions, and increases of the cost of housing rent in the urban areas. He also said that beside those economic factors, there are political and legal failures that represent the absence of government actions to control and arrange open spaces, the lack of code enforcement service to regulate and control the appearance of illegal house construction, the absence of inclusive legal responses towards the continuous appearance of the squatting phenomenon, and the lack of controlling and legalizing the practice of making profits from land sale by land speculators. All the above factors are considered common factors that have contributed to the development and spread of squatter settlements. These factors appear to be mirrored in most developing countries and northern African countries in particular (Melesse, 2005).

Recently, a number of developing countries have aimed to achieve a higher rate of socio-economic development. However, most of these countries rely on one or two economic sources, particularly natural resources such as agriculture or mining. As these tend to be commodities, the prices (and income generated) from these products can fluctuate sometimes widely with world market prices. Cheema and Ward (1993), in their research on “Urban Management” underlined that the absence of diversified economic resources creates a failure to manage economies, and thus the country is unsuccessful in providing a suitable life to its citizens. As a result of that, many countries closed their eyes to how people handle their daily lives. They argued that in most developing countries, governments intended to invest in informal areas by building housing complexes and providing necessary services for the middle- and high-income classes, due to their ability to pay the expenses of housing units (Cheema & Ward, 1993).

However, Cheema and Ward (1993) also clarify that the governments ignore low-income classes, leaving them to tackle their housing demands through informal means. In most developing countries' cities, the urban poor have occupied land without going through legal procedures and attaining permission, in addition to building houses by themselves. As a result of this, squatter areas in developing countries emerged from the absence of governmental planning policies and implementation regulations. This behavior has contributed to the incidence and prevalence of squatter settlements (Cheema & Ward, 1993). Within this context, Myers (1995) saw that the failure is not only an absence of government regulation, but it is also a continuation of a colonial approach in terms of planning aspects, where the planners in general are not able to accomplish their task whether during colonial or post-colonial eras (Myers, 1995).

However, other scholars such as Fernandez and Varley (1998) have stressed that the observable fact of illegality is not limited only to the urban poor areas. Privileged groups of society might be present in squatter settlements; this is the situation of Libya, which this research examines. Squatter settlements are more often situated in the marginal areas of the cities, but this does not mean all residents are economically marginal. Their study also determined that these areas were mostly classified as fragile slopes and hazardous areas, because of their low cost; in some cases, they are even occupied without payment. There is less possibility of eviction from such sites (Fernandes & Varley, 1998).

Hardoy et al. (2001) also supported the idea that many urban settlements in developing countries have spread out through highly productive agricultural areas; this is what is happening in the case of Libya. Hence, the decline of farmland and natural environments with valuable ecological functions is a negative impact and consequence of unrestrained cities growth. The cause of city growth that overtakes farmland or rural land is not one of shortages of vacant land, but lack

of appropriate government policies and strategies to conduct and guide new developments on poor land. This comes at the expense of utilizing and assuring that the entire extent of both vacant and urbanized land is being used appropriately. In Egypt, for instance, about 10% of the most productive land in the country has been lost from agriculture usage as a result of urban sprawl. In addition, much of this land is utilized as squatter settlements; at the same time, major sites within urban areas are still undeveloped (Hardoy et al., 2001). Likewise, Libya's limited agricultural land and woodland experienced the same losses, with potentially even more damaging consequences, proportionally.

The authors also indicated that urbanization is not a modern phenomenon in some parts of developing countries such as northern Africa, due to the antiquity of its urban areas. Many national censuses in Africa document that urbanization has relied on the rate of natural increase in the population (Hardoy et al., 2001). This approach is one argument in my research. Potts (2009, 2011) also suggested that African urban populations were growing four times faster compared to the rest of the developing countries, in particular through the 1980s and 1990s, and even though urbanization rates have slowed in many countries in Africa in the last decade, the rates of natural increase in many African cities remain well above those in many parts of the developing world.

In contrast, the rates of economic growth across Africa have been considered low in comparison with most other developing countries. In addition, the role of African governments in the development (or the lack thereof) is more pervasive compared to the other continents. The northern part of the continent in particular is the most urbanized region of Africa when compared to the other parts of the continent. By 2025, about 60% of the total population in the northern regions is projected to be urban (Obudho, 1999). These percentages vary from country to country,



with some states, such as Libya, exceeding that expected rate of urbanization to reach more than 80% based on the census of 2012 (General Information Agency, 2012).

### **Informal Settlements in Developing Countries**

The most common impact of the urbanization process in almost all parts of the world especially in the developing countries is the proliferation of squatter settlements and slum areas. The phenomenon appears similar in terms of composition with a difference in place of occurrences. Based on those concepts the distinction between the terms of squatter settlements and slum areas is difficult. Researchers such as Obudho and Mhlanga (1988) tried to differentiate between squatter settlements and slums based on their cultural, social, and economic characteristics. These terms characterized the miserable areas of a part of the population that were not completely integrated in terms of social or economic composition. Obudho and Mhlanga (1988) defined a slum as a place situated in the older area of the city that suffers from deterioration and decay: “Slum areas often located adjacent to the central areas of the city’s CBD and are 70 years old or older.” (p. 9)

Obudho and Mhlanga (1988) defined squatter areas as areas “in which the people have built houses for themselves without regard to survey boundaries, whether or not such boundaries have been established” (p. 9). They clarify that squatter settlements provide evidence of evolution of the city, and that is why they are often considered transitional or temporary places in nature. Squatter settlements are often created by inhabitants in order to house themselves and used a minimum of resources. According to this research, squatters are located in central areas as well as peripheral areas of the city. Squatter housing is officially illegal because of its nonconformity to the national or local urban standards of the country (Obudho & Mhlanga, 1988b; Obudho, 1988).

Obudho and Mhlanga (1988) also found that at least one third of the total population of African countries lives in squatter and slum settlements, and more recent data such as UN-Habitat

2010 supports the continuation of this high proportion even though efforts are being made in some countries to reduce this proportion. The African informal settlements population of the 1980s was estimated to have been increasing at a rate of 15% per annum. This growth of population contributed to the spread of the squatter and slum settlements, which was in addition to urban growth rates that were unprecedented in world history, due to a staggering rural-urban migration coupled with very high rates of a natural increase of population at the same time. This migration increased the number of dwellers who lacked proper housing (Obudho & Mhlanga, 1988; UN-HABITAT, 2010).

Obudho and Mhlanga (1988) also clarified that there was a big variation in the types of squatter settlements. This variation was classified according to the economic nature of the squatters and based on its location; most squatters existed at the cities' margins, while other squatters were politically organized as communities. These settlements were composed of pieces of land with only four walls and a roof while others of them had only one room connected to a privy and a place utilized for cooking (Obudho & Mhlanga, 1988).

The UN-Habitat *State of African Cities Report 2010* raised the claim that Africa, as one of the continents most affected by this phenomenon, showed a reduction of its slum dwellers during the 2000- 2010 decade due to effective work in certain countries. The northern Africa region in particular apparently succeeded in managing this phenomenon as a result of these efforts. In contrast to the northern African countries, the countries south of the Sahara have been able to reduce their slums areas by only 5%. On the other hand, countries such as Ghana, Senegal and Uganda reduced a considerable proportion of their slum dwellers by more than 20% (UN-HABITAT, 2010). These results might bode well as a model for the continent regarding improving

the living conditions of its residents and looking to a promising future for the development of its resources.

In addition to those general studies of urbanization and urban sprawl that report on different countries, other examples exist of research on developing countries' efforts to mitigate the phenomenon. The main purpose in reporting these samples is to show the Libyan neighboring countries' experiences and efforts in order to understand how this phenomenon has been studied and managed theoretically and technically. In order to overcome the negative effects of this phenomenon, the developed countries have implemented strong policies and strategies to solve addressing the problem. Accordingly, the developing countries also use these guidelines with the support of developed countries and other agencies such as UN-Habitat and the World Bank. Many developing countries have received advice and technical assistance from various organizations and agencies such as UN-Habitat and the World Bank in order to conduct partial and comprehensive studies in this field. The states of northern Africa comprise one of the African regions that deserves attention from such global institutions, and their studies are a form of authentication for the efforts and assistance to eliminate the unprecedented growing of this phenomenon.

### **Lessons from North African Countries**

**Population growth and development situation.** The northern African countries, or Al-Maghreb Al-Arabi as they are often known regionally, consist of seven countries, which are Egypt, Libya, Tunisia, Algeria, Morocco, Mauritania, and Western Sahara. This territory was one of the first urbanized areas in human history, and it includes some of history's most powerful and urbanized civilizations, such as ancient Egyptian, Greek, Roman, and Islamic civilizations (Abu-Lughod, 1976). This region, as is true for many regions in the world, was affected directly by the consequences of the industrial revolution during the colonial era. Taylor (2012) has argued that

“the colonial presence has shaped the urban tissue in various cities...and has created an urban system bypassing existing urban patterns, through a focus on the countries’ capital and, often, port cities.” (p. 102) as a result of those consequences, most of the region faced what is known as a polarization of its main cities. Their big cities became dominant as a result of fast demographic and economic growth. Thus, the majority of urban residents as well as new migrants found it difficult to obtain sufficient, affordable housing and secure land. Assessment and foreign aid took place in most of these regional countries in order to fill in the urgent needs (Salhin, 2011).

This chapter does not examine all of the countries of the region; primarily, Tunisia, Morocco, Libya, and Egypt are addressed due to the availability of documentary data. Their past experiences can be beneficial in coming to an understanding of how to deal with the phenomenon of urbanization and its implications. The main implication in these countries in particular is demonstrating this phenomenon of underdeveloped urban areas and the spread of the informal sectors at the expense of agricultural areas, forests, and nature reserves. Another beneficial reason to study Libya and these countries as stated by Elbendak (2008) and Abu-Lughod (1976) is that these states share many common features, such as variations on Arab ethnicity, Arabic language, and Islamic religion as the dominant cultural features, regardless of the magnitude to which they differ (Abu-Lughod, 1976; Elbendak, 2008).

Within this context, Drake (2006) pointed out that the differences among these countries can be revealed in “their physical geography, involving different topographic features and climates, differing carrying capacities of the land, and the uneven natural resources base. But, it is also a consequence of a number of historical and political factors” (p. 1). Myers (2003a) stated that their colonial backgrounds may also be considered a major factor that creates differences between these countries (Myers, 2003a). The Maghreb countries were confronted by different colonial

nationalities. For instance, Libya was colonized by Italians, Egypt was under the British mandate, and Tunisia, Algeria, and Morocco were affected by French colonists. All these colonial powers had been involved in the phenomenon of urbanization and city growth due to the imbalance of living between indigenous people and the colonists (Drake, 2006; UN-HABITAT, 2009).

Most Maghreb countries preceded Libya in terms of increasing their population and the huge demand of housing. They also preceded Libya on how to deal with this phenomenon through intensive studies and efforts. Some of these countries have succeeded in reducing the size of the problem, at least to some extent. These successful efforts were recognized by global organizations, such as UN-Habitat. The following paragraphs summarize these efforts.

Geographically, most of the northern African countries are located along the Mediterranean Sea and stretch south into the depth of the greater Sahara. The Maghreb states are one of the first global areas that were inhabited by humans. As a result of its strategic location between the Old World continents, the region's coastal cities and hinterlands have long been a center of urbanization. Yet this ancient region has faced dramatic contemporary increase of population, particularly in the last few decades. The region was inhabited by 212.9 million people in 2010. In the years between 2005 and 2010, most of its population lived in urban areas with a growth rate of 2.45 percent (UN-Habitat, 2011). At present, 66.50% of the total population lives in urban areas (UN-HABITAT, 2010).

As shown in Table 1 and Figure 1, Libya has the biggest share of people living in urban areas compared with its neighboring countries in the sub-region, where 77.89% of its population is living in cities (UN-HABITAT, 2010). However, according to the State of Arab Cities 2012, the urbanization rate is still escalating in all countries. In the census of 2012, the urban population of Libya exceeded the projection of the UN-Habitat to reach 88.9% and is expected to move beyond

this by 2030; this is the highest rate among all northern African countries (General Information Agency, 2012; Habitat, 2013). Irrespective of their economic development or their national income level, the northern African states are struggling to solve the increasing demand of housing for growing numbers of their population (Madbouly, 2009).

Table 1.

Northern African Urbanization Rates (%)

Population	1950	1960	1970	1980	1990	2000	2010
Libya	19.55	27.32	49.67	70.09	75.72	76.37	77.89
Egypt	31.93	37.86	42.21	43.86	43.48	42.80	43.40
Tunisia	32.29	37.51	43.48	50.57	57.95	63.43	67.28
Algeria	22.1	30.51	39.50	43.54	52.09	59.81	66.50
Morocco	26.18	29.36	34.48	41.21	48.39	53.34	58.24

Source: Compiled by the author from: Revisiting Urban Planning in the Middle East North Africa Region, 2009 and the State of Northern African Cities 2010

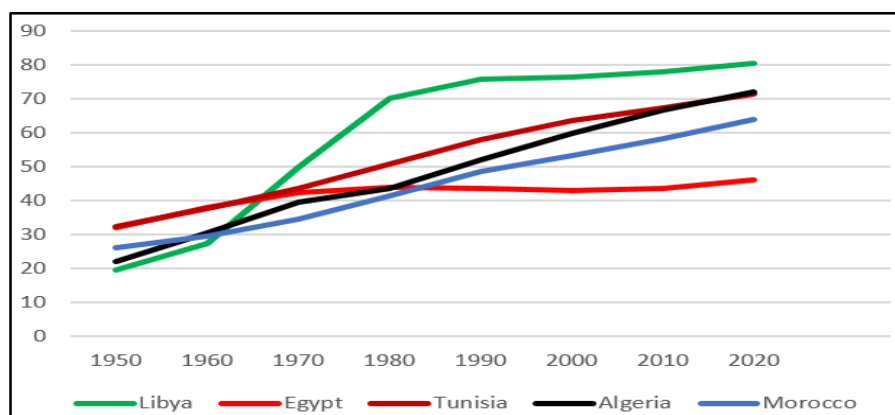


Figure 1. Northern African Urbanization Rates 1950-2020

**Urban sprawl and squatter settlements in northern African countries.** Recent studies and research show that the northern African region faces a significant increase in the degree of urbanization as a result of the adoption of new development strategies in most of the region's countries. These steps contributed greatly to the increase of the proportion of population living in urban areas. These states also saw a major expansion in their urban areas in parallel with the marked increase in the population at the expense of rural development. Consequently, the roots of rapid contemporary urban growth in the region started at the beginning of the colonial era. Each colonial country established administrative centers along the Mediterranean Sea. These countries used their new colonies as advanced defensive zones. They also used them to import and export raw materials through new ports built in each area, particularly in the areas along the Mediterranean Sea. Consequently, most of the first colonies' urban centers grew around the old ports (Elbendak, 2008; Madbouly, 2009).

Other new colonial urban areas grew up around the old walled Arab cities or Medinas such as Tripoli and Algeria city. The colonists brought new transport systems that had not previously been known in the occupied areas. These new transport systems entered changes in the structure of the old Arab walled city or Medina. The old Medina still exists in most northern African countries where either some of or all of heritage has been preserved. The United Nations preserved those old centers as world heritage sites, such as old Tripoli and old Cairo (Elbendak, 2008; Madbouly, 2009).

Salhin (2011) and Madbouly (2009) also argue that after all of the region's countries gained their independence, the population was redistributed towards the port cities. As a result, the importance of the port cities increased and thus became known as the "primate" or primary cities of their countries. That indicates that independence brought to these cities massive expansion and

change of the spatial structure and environmental characteristics. The contemporary demographic, social, and political problems of North African cities deeply originated in their colonial past (Madbouly, 2009; Salhin, 2011). Myers (2003) also supports the idea that most African cities were reshaped based on the social-spatial order in terms of modeling the city and its divisions. He also states that this type of modeling is related to the en-framing spatial order of the city that might be changed through time and space. He also acknowledged the failure of this model to create an ideal urban development in the post-independence period (Myers, 2003).

**Housing demands.** Despite overall improvements in the shape and design of the northern African cities during the colonial era, their cities' populations have risen rapidly, and this tendency is anticipated to continue into the near future. Housing supply and demand are always measured in terms of quantity. As mentioned previously, the northern African region had a population of 212.9 million people in 2010. Consequently, UN-Habitat (2011) has reported the volume of housing needed between 2002 and 2012 in Algeria is 175,000 additional units in order to keep parallel with population increases and to eradicate informal settlements. This demand might vary from one country to another, in Morocco, for instance, the demand is about one million units in the same time frame. In the case of Libya, the shortage of housing for the year 2002 was around 240,000 units. This number increased and reached 492,000 units in 2012. In Egypt, the demand is expected to reach about two million by 2012 in greater Cairo alone (UN-HABITAT, 2011). In the northern African region, as in other areas in the continent, urbanization has happened at a very fast pace, and most cities of the region have been incapable of meeting the rising demand for housing and urban services. This situation is estimated to continue into the near future even though the various respective national housing policies created improvements. Managing rapid growth of urban populations in the face of housing shortages and inadequate infrastructure is also becoming



more of a challenge. Madbouly concluded that the urban population increased dramatically compared to that of rural areas (Madbouly, 2009).

**Studies of squatter settlements in the Maghreb states.** As a result of enormous housing shortages in most northern African countries, informal settlements became a major trend, where the accelerated demand of affordable housing is not turned into formal supply. Despite the proliferation of informal settlements in some states such as Egypt, Algeria, Morocco, and Libya in the past decades and which was the result of the failure of the state to provide affordable housing and apply the planning policies; the phenomenon of informality persists in their main cities (Madbouly, 2009). However, the states faced a considerable reduction in their slum population in the period 1990-2005 as a result of the efforts of those States (Obeng-Odoom, 2014).

Nyametso also underlined the importance of land tenure policy as a factor of spreading informal settlements. He clarifies that the deficits in housing supply in addition to the high rent of the suitable accommodation encouraged squatters to reside illegally (Nyametso, 2011). Within the same context, Kipper (2009) and Madbouly (2009) believed that the escalation of land prices and the lack of public land management in those countries, in addition to the acceleration of the price of formal sector housing, have led to the emergence of informal sectors in cities all over the region. Egypt is an example of this, as more than 30% of its urban population lives in informal areas. These areas are characterized by lack of land tenure security and limited access to basic social and technical infrastructure services (Kipper & Fischer, 2009; Madbouly, 2009).

**Efforts of Maghreb states.** As a response to these urbanization consequences, the Maghreb countries undertook efforts to alleviate informal housing. As stated by United Nations agencies and scholars such as Madbouly, slum upgrading policies and programs appear to be seen as the major priority in some states in the region in order to improve overall living conditions. On

the other hand, attention given to the main cities has decreased as the attention has shifted towards development of smaller cities, thus increasing the expansion of those cities under the control of the sustainable new development trends (Habitat, 2013). In 2011, Egypt, Morocco, Tunisia, and Algeria adopted a national development policy that provides more development to the secondary cities in order to mitigate pressure on the urban areas in large cities. These policies also aim to restructure, improve, and redevelop slum areas and squatter settlements (Habitat, 2013). For five decades, the northern African countries have been trying to diversify their urban planning systems. In the past, the urban planning process concerned on providing technical activities by well-trained experts without the involvement of stakeholders such as local communities, politicians, and economists. This process resulted in failure for urban planning schemes in many northern African countries, such as Libya. Nevertheless, besides its function as a detailed view of the physical form of the city, an urban planning scheme should be a set of values that reflect the ideal living condition of the residents. From that perspective, the northern African countries have created planning approaches in response to fluctuating economic and environmental aspects (Master Planning-Programming Approach, 2005; (Madbouly, 2009).

Based on their geographical proximity to the European continent, the Maghreb states adopted urban planning approaches similar to those used by European countries in the 1980s and 1990s. This urban planning relied on bottom-up approaches.<sup>1</sup> These concepts emerged as a response to the failure of master planning and the absence of a comprehensive and longer-term spatial schema. The comprehensive approach provides a wide-ranging and conceptual spatial idea instead of concentrating on limited detailed spatial design. In addition, the master planning concept

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<sup>1</sup> Bottom-up is a contemporary planning approach. It strongly relies on the participation of people and stakeholders in all planning processes (planning for people and by people).

does not tackle every single part of a city but only concentrates on those issues that are essential to overall plan objectives (UN-HABITAT, 2009; Urban Planning Agency, 2007).

In Egypt, the first appearance of informal settlements was officially noticed in 1993. These settlements began in the peri-urban fringe of the main cities, particularly in the greater Cairo metropolitan area and Alexandria. In greater Cairo about 70% of its population is living either in semi-legal or illegal quarters. These areas are characterized as mixed land use or areas that have both rural and urban socio-economic characteristics. These settlements represent about 60% of the total urban area of Egypt, which demonstrates the magnitude of the actual problem. Even though 58% of urban Egyptian residents lived in slum areas in 1990s, the number had declined by 17.1% by 2005. By the year 2008, it was estimated that 16 to 21 million people lived in slum areas (Howeidy, 2009; UN-HABITAT, 2010).

As a response to the inflation problem and public outcry to resolve this problem, Egypt attempted to conduct effective long-term programs and policies for managing and upgrading informal areas. Madbouly believed that these plans appeared to be an appropriate way to ease the gap between the supply and demand in this sector (Madbouly, 2009). In addition, policies in Egypt and Morocco aimed to steer urban populations to new areas. These policies have the advantage of protecting limited arable land from the encroaching building blocks. The Egyptian government was trying to limit the domination of the planned areas as well as the informal settlements at the expense of fertile land and lands suitable for agricultural purposes by conducting reclamation projects in the desert that are thus changed to agriculture areas in order to encourage urban residents to move towards these new areas (UN-HABITAT, 2013; UN-HABITAT, 2010).

The vital issue in most northern African countries and Egypt in particular is the lack of secure property rights where vast areas remain without registration. Investment companies,

whether owned by government or private sector firms, are finding it difficult to access land and real estate for their proposed projects. In addition, the inability to use land and real estate as financial collateral because of insecure property rights gives a clue that housing mortgage finance remains undeveloped in the region's countries with the exception of Tunisia. As a result of misuse of land by its owners, new unplanned areas are still generated at the expense of arable land (Howeidy, 2009; UN-HABITAT, 2010).

Properties remain untapped resources for investment in Egypt's urban areas; this is a result of misunderstanding or to some extent ignorance of land owners and government about efforts to register all pieces of land. The poor owners are not able to use their properties as collateral in order to improve them or to start a business without getting a registration deed or leasing the properties. Untitled land is a major obstacle to urban development and therefore to an increase for the owner's income and the country's economy. In spite of the benefits of land registration, land owners do not trust land registries because they think that registration will only result in taxation. In addition, they are not able to go through the bureaucracy's formal registration and its expenses. One Egyptian government effort to eliminate the informal land system in order to heighten long-term economic benefit aims was to convert about 95% of private land in Cairo into the formal system by changing the manual registry index into a digital cadaster by adapting GIS techniques (UN-HABITAT, 2010). The Arab Spring threw this and many other urban development programs into uncertainty in Egypt.

Egypt also had an ambitious plan to motivate the financial markets to generate its first mortgage plans by releasing a huge budget. These budgets were intended to impact unregistered real estate. This successful procedure would be a step to enhance the economy in general and develop a parcel registration system for Egypt as a whole and Cairo in particular. The

landownership rights of the lower and middle class can be registered by the state authorities. As is the case in other northern African countries Egypt's low income people do not have any other resources except those properties that they occupy (UN-HABITAT, 2010).

In the context of peri-urban areas in general and in informal areas in particular, some northern African countries have considered the suburban areas as a form of their urban system. Based on that approach, some countries in the region such as Egypt and Morocco have intended to study the peri-urban sector as a part of their comprehensive study in order to mitigate poverty and thus upgrade existing informal settlement areas. In the case of Morocco, the government established two new towns as a step to steer people from peripheral areas towards the new areas. This plan aimed to eliminate the poor living condition in slums and squatter areas by concentrating on social housing (UN-HABITAT, 2010).

In addition, in 1998-2001 the Moroccan government conducted a new project with the support of UN Habitat and the UN Development Program (UNDP) in order to mitigate poverty in peripheral areas within three main cities. This program aimed to strengthen local authorities so that they could build a framework of integrated plans that would improve the living conditions in the periphery. This program was intended to cover three urgent issues: create new sources of income, provide housing and access to basic services, and provide social integration through protection of vulnerable groups. This program also considered concepts for social development such as strengthening the partnership between different sectors; examples could be creating co-operations between local social organizations in each city with local executive institutions, civil society groups and the private sector. The main missions of partnerships between these sectors were participation in decision-making and the recruitment of poor people in the marginal areas (Madbouly, 2009). This effort was strongly influenced by Morocco's participation in UN-Habitat's

programs for Sustainable Cities and Localizing Agenda 21 (LA21), the urban planning framework that emerged out of the UN's conferences in Rio de Janeiro (1992) and Istanbul (1996) on sustainability and cities, respectively (Myers, 2005).

The UN's report on the State of Arab Cities revealed a new plan for the government of Morocco in 2008, a National Spatial Strategy, which in turn emphasized the urban areas and considered them competitive engines that could enhance the national economy. The main objectives of this plan are strengthening urban social consistency and the effective use of natural resources. It also plans to enhance urban management practices by narrowing the gap between central and local governments and allocating complementary responsibilities between the two sectors. The plan also proposes the creation of an interdisciplinary urban observatory in order to manage and analyze urban issues including the areas of economics, social systems, and energy. The results of this strategy could generate national improvement that prioritizes infrastructure and public space, and the relocation of slum residents to slum free cities. The urban strategy was conducted to redirect urban sprawl to new urban centers in a range of 5 to 15 kilometers away from the existing urban agglomerations, relocate slum dwellers, and provide affordable housing (UN-Habitat, 2012).

In the case of Tunisia, the process has varied slightly in terms of acceleration in the urbanization process and in how to face it. Tunisia's urbanization is growing very fast, with an urban population in 2010 at 75% of the total population of the country. This process of urbanization is due to the continuous tourism development and industrial activities in the coastal areas. Both activities encourage and attract people to leave their farms and grazing zones in rural areas in order to pursue a better life through job opportunities in the major economic engines of cities in the coastal areas. That movement means that rural areas have faced a drop in population from 3.425

million in 1994 to 3.4 million in 2000, and 3.3 million in 2010; the declining rural population was projected to reach 3.1 million in 2025. However, the fast reduction of population in the rural areas reduces pressure on the rural natural environment. The rural-urban migration instead has most affected the arable land adjacent to the cities, as a result of its redevelopment as built space by newcomers and, thus, this zone could potentially lose its economic value as a productive area (Antipolis, 2001; UN-HABITAT, 2011). However, in the last 10 years, Tunisia adopted a successful program that aimed to control its population. This program led to a remarkable reduction of population in addition to reducing the rural-urban migration (UN-HABITAT, 2011).

The expansion of urban growth has nonetheless led to a spread of unregulated housing, particularly on the periphery of main urban centers. This behavior has impacted the quality of life, space depletion, and management of utilities. In addition, the rapid growth of urban centers brought the spread of unregulated buildings, which in turn altered coastal towns and resorts particularly those located along the eastern sea-side. The physical and ecological systems were drastically changed into built-up areas with a reduction of natural beaches. Likewise, uncontrolled urban growth impacts agricultural land by overwhelming it. The peri-urban agricultural areas have lost production due to the process of urbanization. However, the transformation of agricultural land in peri-urban areas is not totally disastrous, as relinquishment of the agriculture land around the main cities for the development of tourist and industrial activities is significant because it gave rise to the economic growth of the country via the once- thriving tourist sector (Antipolis, 2001).

Antipolis (2001) showed that urbanization in Tunisia could exceed 75% in the future, as an additional 3.2 million inhabitants were expected to add to the existing residents living in the main cities. This brings a spread of informal areas in the periphery area of the main cities. Therefore, the shortage of formal housing supply, whether from the government or private sector,

brings an explosive demand which in turn leads to the controlling of the informal real estate market (Antipolis, 2001).

The Tunisian government tried to overcome this phenomenon by moving in two directions; the first emphasized protecting the historical city centers. This trend provides links between new development and the historical areas in terms of tourism and national economic development. However, the second direction gives emphasis to the periphery areas in order to organize the peri-urban interface of these cities and control their urban sprawl (Madbouly, 2009). In addition to those trends, the Tunisian government conducted a comprehensive national development strategy in order to control the space of urban areas based on reliable statistics and criteria. Through this strategy, the government intended to provide coherence and management between all sectors responsible for urban development. The strategies of both directions worked based on the guidelines of the urban scheme (Antipolis, 2001; UN-HABITAT, 2011).

The Tunisian government also aimed to create cooperation between neighboring communities in order to simplify common social and technical infrastructure issues. The strategy sought to find more financing possibilities to enhance the urban infrastructure through new reliable tax collection methods. This strategy is meant to reproduce financing possibilities in order to develop infrastructure within urban communities. Therefore, the government considers local taxes as a contribution from the residents that can be used to strengthen the economies of the local urban areas. The government also has given attention to private sector resource mobilization with the hope of encouraging the state in order to address urgent urban sprawl issues. This strategy determines the role of the state and the role of local authorities in terms of urban context. This clarification also describes exactly to what extent the integration of these sectors facilitates



coordination and a narrowing of the gap between planning and urban management along with financing investments (Antipolis, 2001; UN-HABITAT, 2011).

Generally, it can be concluded that through ambitious efforts to upgrade the overall quality of life in informal areas in Arab Maghreb countries, the overall urban informal areas visually decreased by 43% between 1990 and 2010 (UN-HABITAT, 2010). Likewise, with the exception of Libya, most of the countries made great strides towards improving living conditions in informal areas. This improvement includes providing affordable housing despite the economic recession seen in most northern African countries. Morocco and Tunisia proved the most successful countries in the region, as both countries successfully overcame difficulties and negative effects of urbanization. They faced this phenomenon with interventions, such as upgrading existing housing and providing affordable housing with the cooperation of public and private sectors. The Arab Spring, in both countries, appears to have had less of a negative impact on these urban planning interventions and, in some senses, to have enhanced them (Philifert, 2014; Bocquet, 2015).

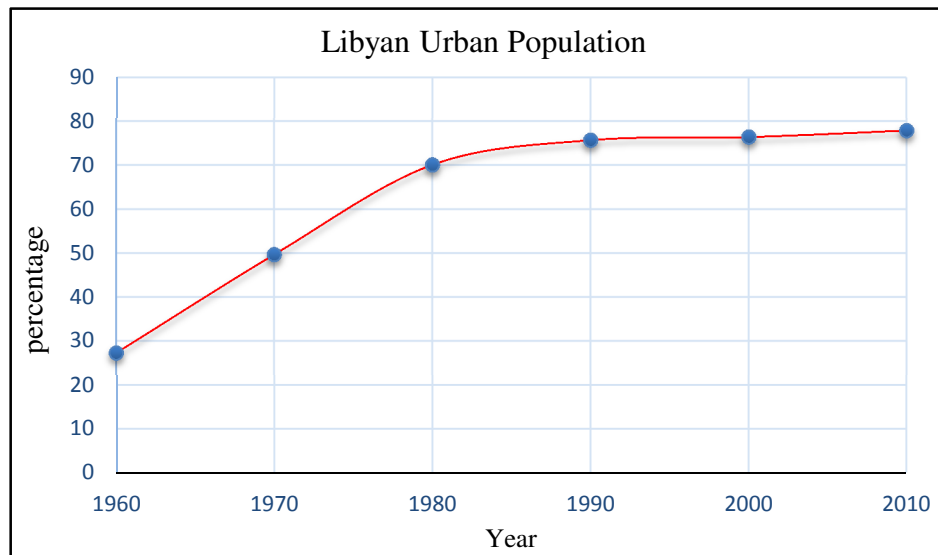
Furthermore, the Egyptian government, in an unprecedented step towards mediating the challenge of distance and time, was able to reduce congestion and the growing number of arrivals from the countryside through the development of desert areas and the establishment of new towns. This strategy steered urban sprawl to the desert and thus preserved the arable land. Although the Arab Spring produced new challenges in Egypt, Tunisia, and even Morocco, the clear strides in urban upgrading in the two decades prior to the upheaval that began in the region in 2011 are unlikely to be undone in the short term; in the longer term, if greater political stability returns to Egypt and Tunisia, and continues in Morocco, the progress of management for informal housing areas is likely to continue.

**Specific context of Libya.** Urbanization in Libya is to some extent similar to the other countries in the northern region of Africa in terms of appearances. However, it differs in terms of its impact based on particular factors. Madbouly (2009) states that these countries differ from each other in terms of their urbanization trends:

The region comprises a great diversity of socio-economic, human, and natural resources and characteristics...countries differ in the income resources that they possess, the levels of political and economic liberties and the traditions of governance related to these liberties, human development indices, political stability, recent histories of conflict, social cohesion, and modes of production in general. Moreover, they also differ in their openness to globalization (p.18).

To confirm his perceptions, it can be noted that the Libyan population is very low compared to other countries in the region. However, as clearly shown in Figure 2 Libya is more urbanized than other countries in the region because more than two-thirds of its population lives in cities. According to the United Nations Habitat's 2010 report, 77.89% of the Libyan population was already agglomerated in cities by the 2010. The organization predicted this would increase to 80.29% by 2020.

However, the Libyan 2012 census showed that the urban Libyan population exceeded those estimates of Habitat's 2010 prediction to reach 89% in 2012. Libya's annual growth rate for the urban population 2005 to 2010 was estimated to be approximately 2.31%, which is relatively high compared to neighboring countries in the region (General Information Agency, 2012; UN-HABITAT, 2010). Obudho also stressed and confirmed that Libya has had both a higher rate of urbanization and urban growth in comparison to the other northern African countries for quite a few decades (Obudho, 1999).



*Figure 2. Distribution of Libyan Urban Population*

Source: United Nations, World Urbanization Prospects.

**Main thoughts and tenets of study.** The extensive and broad literature on squatter settlements in the developing world and the emerging body of work on Africa, a small sample of which is reviewed above, is nonetheless limited in a few respects. This research therefore aims at gaps in the literature; in particular, this research seeks to expand on the small number of studies conducted in Libya on this issue of squatter settlement that give an indication of the difference between Libya and the north African and developing countries cities. These particular subsets of research that this study seeks to contribute are small and are reviewed in the section that follows.

Research by Osama et al. (2008) centered on the changes in residential land use of Tripoli from 1969-2005 within the context of three planning generations, that can be detected, mapped, and analyzed by utilizing GIS techniques and remote sensing with image processing and classification. The patterns of sprawl and residential changes were described using a variety of metrics and through visual interpretation techniques. In addition, the authors evaluated the evolution of seven planning districts in Tripoli. These districts were highly affected by the rapid growth from 1969-2005. The authors concluded that the development in the city throughout the

period observed was spontaneous, uncontrolled, and haphazard. They also indicated that the master plan of the city is not effective in accommodating and guiding the development of the city, which obviously resulted in the appearance of unauthorized changes in land uses (Jusoh, 2008).

Alzlitni's (2005) research concerned the development and suitability of physical and urban planning systems in Libya. He analyzed and evaluated urban planning processes and planning standards in various Libyan regions. The author found a similarity in the common features of the new urban plans in the country in spite of the differences of natural characteristics of each region. These characteristics are represented in existing social, economic, and environmental conditions of each region. The author also clarified in his research that ignorance of these factors has led to a set of problems for new development plans. In addition, many contemporary plans have not worked due to ignorance of the local condition's needs as represented by the culture of the people who live, work, and relax in this environment (Azlitni, 2005).

Urbanization impacted not only the spread of cities outside the planned areas but also has a significant effect on land use patterns changes in planned areas. In their research, Osama et al. (2008) pointed out that Libya has faced rapid growth in its natural population where most of Libyan the population is living in urban areas. The urban population of the country was expected to rise during the upcoming quarter of a century. Osama, et al.(2008) stated that in addition to the demographic changes, the state confronted "macro-economic changes and rapid economic growth" (p.71) which in turn considered these changes an ambiguous matter for the opportunities and challenges for the development of cities in Libya to confront the accelerated world changes in all aspects. As a result of that a significant change in the land use pattern in Tripoli has occurred within the period of 1969-2005 in all parts of the city. These changes were found to be mostly in

recent times, particularly within the second planning long term plan adopted by the state in the period 1981 to 2000 (Osama et al., 2008).

From that standpoint, the city of Tripoli as the capital of the state and an important economic center of the country has undergone major changes in land use patterns and especially residential ones within the planned urban areas, which have become evident in recent times, and it can be said that the city is under multiple pressures. Osama et al. (2008) also revealed that the failure of the implementation of housing schemes during 1980s and beyond is because of a high urbanization rate and the waves of in-migration to the planned areas, particularly the central areas of Tripoli and areas surrounding it. These factors affected the harmony of the distribution in land uses where the residential land use had expanded at the expenses of the rest of land uses. Osama, et al. (2008) found out that:

The extent of the residential land use in the city has expanded over the period observed, that is, from approximately 1,126.8 hectares which is equivalent to 7.6% of the total city area in 1969, to approximately 4,573.3 hectares or 30.8% in 1980, and to 6,783.3 hectares or 45.7% of the total city area in 2005. This expansion came to the extent that many land uses such as open spaces, education and health areas had transformed to residential areas (p.74).

Kshedan (1984) stressed that the growth of Tripoli and its spatial structure faced dramatic changes as the result of a cascaded process of transition. The modern city faced essential changes since day one of its development by Italian colonists in the beginning of the twentieth century. The author pointed out that the city evolved through three main transitions: the pre-industrial stage, the industrial stage, and a socialist stage, where the urban planning systems became based on a socialist approach. This inconsistency between the different planning systems makes it difficult to

specify the style of the city and its land use patterns and structure. The author also drew attention to the claim that the Western industrial city model is not applicable to Tripoli's land use pattern due to the difficulties in understanding land use patterns without also understanding the history of the city's development (Kshedan, 1984).

He concluded that the transformation stages that occurred created a complex spatial structure for the city. The Libyan government at that time applied the socialist system to all aspects of Libyan lives, and in particular the urban planning system in the country, which affected the structure of the city. The city experienced a socialist system after 1977 in conjunction with the announcement of the era of the masses, the ideology of the Green Book. The Green Book was published by the Libyan dictator, Gadhafi, a few years after he seized power in a 1969 military coup. This book was published during the 1970's as part of Gadhafi's promise to keep away from the failures of the world's main political ideologies such as Western democracy as well as Communism: his "Third Universal Theory" would aim to apply an era of mass democracy. In this new ideology, people would supposedly be able to rule themselves directly (Bazzi, 2011).

This book consisted of three volumes: *The Solution of the Problem of Democracy*; *The Solution of the Economic Problem*; and *the Social Solution*. This ideology advocated a utopian socialism. The author of the Green Book tried to apply his ideology via a centralized socialist system in all government institutions. The central government applied a supermarket system, each Libyan family own only one house, and there was a prohibition on the renting of homes (Bazzi, 2011).

In this system, the government eliminated the segregation of the residential composition and provided a mixture of low and middle income housing through publicly-built apartments. It also confiscated private land and properties. Kshedan states that the city at that time was considered

an ideal example of a developing country's socialist city where the land use was planned based on the Green Book ideology (Kshedan, 1984).

Finally, it can be concluded that Libya faces the challenge of urbanization, largely because this phenomenon is not only a consequence of industrialization as it is also seen in neighboring countries and other parts of the world. Through previous extensive studies of this phenomenon, it is obvious that urbanization and a large increase in the world's population have contributed to the occurrence of squatter settlements and underdeveloped community areas. Most developing countries area with both rich and poor governments suffer from that incidence and the spread of informal sector settlements, squatter settlements, and slum areas.

As a result of that, the Maghreb governments have allocated budgetary financial support, and human resources with the aim of mitigating or finally disposing of this phenomenon. Most states have developed plans and long and short-term programs and strategies to face this problem. These studies clarify that the causes and consequences of informal settlements are due to the driver of urbanization. Most authors agreed that urbanization plays a significant role in the spread of this phenomenon. In addition, some studies show that the reason behind that is the economic inequality between urban areas and rural areas. Intra-regional migration also plays an important role in the appearance of informal areas in periphery areas of the primary cities.

However, key factors have been left unaddressed in most of the former studies; therefore, this study explores vital factors that might contribute to or cause the spread of informal settlements in Libya that have occurred through space and time. In addition, this study considers the uniqueness of Libya among its neighbors in many aspects such as politics, economics, environment, and demography. This study addressed factors behind the incidence and prevalence

of squatter settlements in Libyan cities. It is also looks to account for the variation in the prevalence of squatter settlements between northern African countries.

Other difference to consider is that a serious study to address this phenomenon in Libya does not exist, except in general planning schemes prepared for Libyan cities. Few studies have looked at the issue of urbanization and its side effects in Libya. Most studies in the region sought to find solutions to control the phenomenon, but Libya already had in place solutions, such as the comprehensive planning generations since the 1960s; however, these measures were insufficient to solve the problems that this research investigated.



### **Chapter 3: Evaluation of the Physical Setting of the Study Area**

This chapter outlines detailed descriptive information that is beneficial for the study, by tracing the extensive historical, physical, and socio-economic evolution of the study area. This chapter also demonstrates and identifies significant events that altered and consequently participated in the transformation of the Libyan society in terms of socio-economic and environmental themes. Many studies realized and emphasized understanding and addressing the demographic factor in all aspects of life. Pebley (1998) argued that “population growth has been... a major cause of environmental problems.” (p.378) Tracing these demographic and historical themes brings a full background of the incidence and prevalence of informal settlements and identifies to what extent this trend can cause environmental degradation (Pebley, 1998).

The demographic factor is essential for shaping twentieth century cities. Most governmental sectors use demographic trends in consideration while executing their business plans (UN-HABITAT, 2009). In the case of urban planning, population data is considered vital in all stages of the planning process, whether for a new plan or a revised plan. Population is also a crucial factor for identifying urban problems and community needs, because population size and its structure provide a significant implication to determine the future evolution of cities. Thus, tracing and evaluating the population elements and migration factors provides an indicator to the economic situation of the study areas and helps determine the ability of the plan to accomplish its goals and objectives. Population elements provide implications for determining whether the study area is a pull or push place for the movement and concentration of the population in certain place within the state. Tracking census data through decades also aids a streamlined development process, since the knowledge that any deviations, whether an increase or decrease of a surprising extent, may affect a planning process that relies on a particular population growth rhythm.

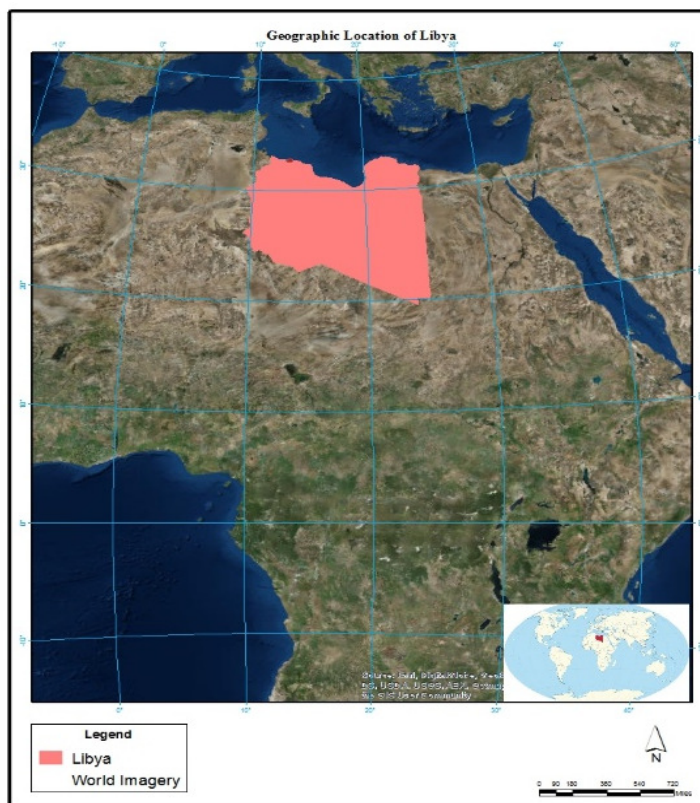
Exploring a detailed narrative of the housing process could clarify to what extent the state strategies and plans succeeded or failed to eradicate the problem of housing. This helps in gathering knowledge of why phenomena emerged, such as squatter settlements. It also identifies how the state government policies through these efforts dealt with the perception of the imbalance of the population distribution and satisfying housing needs and thus how the phenomenon of squatter settlements came into the view in the periphery of Libya's major cities. This historical and spatial theme highlights the significance of possibilities for taking advantage of the past to build developments and eradicate haphazard elements in Libyan society, such as the phenomenon of the informal construction.

### **Geographical and Historical Overview**

Libya is located in the middle of the northern region of the African continent as shown in Figure 3. It is in the World coordinates between 20° and 34° N and 10° to 25° E (El Kenawy, López-Moreno, Vicente-Serrano, & Mekld, 2009). Libya also is one of the Arab Maghreb (meaning the 'western' Arabic-speaking region) countries on the southern coast of the Mediterranean Sea, with a total area of 1,759,540 square kilometers (685,000 square miles). This vast size means that Libya ranks fourth in Africa and seventeenth in the world in terms of size of state. Conversely, its population density is considered one of the lowest in Africa, and even in the world, with only 3.6 inhabitants per square kilometer. Libya is assigned the 185<sup>th</sup> position in the world in terms of density (El Tantawi, 2005; Otman & Karlberg, 2007).

Libya shares borders with many northern African and sub-Saharan countries: Tunisia and Algeria to the west, Egypt to the east, and Chad, Niger, and Sudan to the south, with the Mediterranean Sea to the north. Accordingly, the Mediterranean Sea is the only natural boundary of the country (Azzuz, 2000). This natural boundary is the longest coast line on the Mediterranean

Sea, which stretches 1,770 kilometers (Vandewalle, 2012). Historically, Libya has been considered a strategic location and therefore has faced varying degrees of invasion and colonization throughout its history. This territory was fully or partially ruled by many empires and forces, including the Phoenicians, Carthaginians, Greeks, Romans, Vandals, Byzantines, Arabs, Ottomans, and Italian fascists. All of these forces left impressive ruins in many places of the country, and their legacies are embedded in the current Libyan society in terms of demography, architecture, and urban fabrics (Blanchard, 2012).



*Figure 3. Geographical Location of Libya*

Libya as a modern state was established in 1951 by consolidating three distinct regions: Tripolitania in the west, Barga (Cyrenaica) in the east, and Fezzan in the south. By 1963, Libya had folded the federal system into a monarchy to become one unified state, which remained until the military coup of 1969 (Blanchard, 2012). Since 1969, Libya has been faced with many political

system changes, beginning with a republic into what was termed the Jamahiriya system (the era of the masses) under the rule of General Moammar Gadhafi. Throughout this period, it was considered stable as an authoritarian regime, albeit with some clashes with the neighboring countries as well as western countries, particularly the United States. However, the Jamahiriya system ended with the Arab spring revolution in 2011 that collapsed the forty-two year reign of Gadhafi's dictatorship. Libya now is struggling to establish itself as a new country with an eye towards freedom and democracy (Blanchard, 2012).

### **The Socio-Economic and Environmental Setting**

**Demographic situation.** Libya has one of the smallest populations of any African country. One major cause resides in the poorly publicized years of systematic genocide during the Italian occupation from 1911-1943, during which time Libya lost more than half of its population between those pronounced missing or dead from the two World Wars, the war against occupation, or the horrific conditions that befell those held in mass detention camps. Libya also lost part of its population by forced displacement to Italian islands during the time of occupation. Diseases and starvation as a result of poverty before the discovery of oil in the 1950s caused the death of many other people, especially children (Palumbo, 2003). However, Libya experienced significant growth after its independence, particularly in the 1960s and 1970s due to the overall improvements in health and quality of life. This situation remained stable until the 1990s, when the rate of population growth started to decline again. This decline came about because of the adoption of modernization in all aspects of Libyan life. For example, women became much more a part of the labor force and attained greater levels of education as Libyan society urbanized and industrialized. These are typical factors for a decline in the total fertility rate, which is the central building block of lower rates of natural increase in a population (Abughlelesha & Lateh, 2013; Antipolis, 2002).

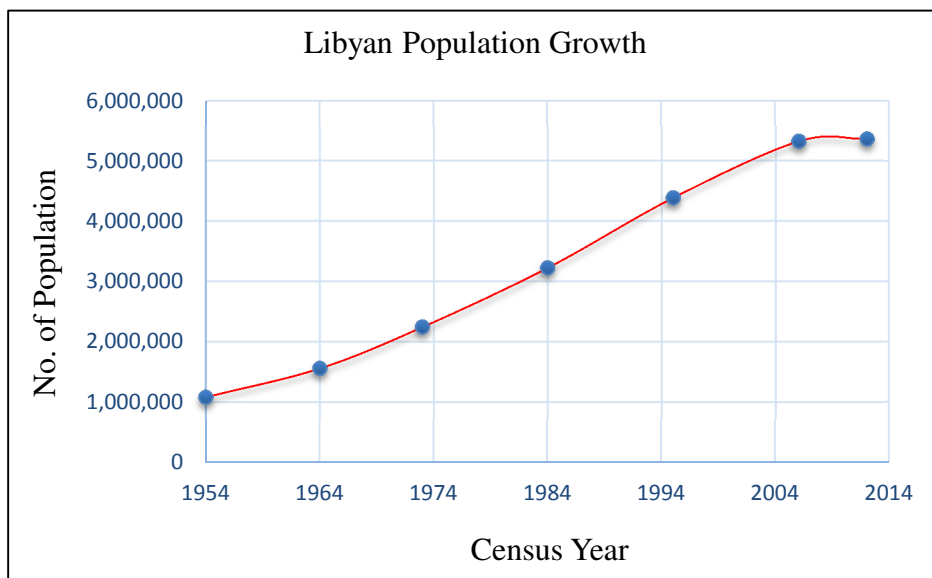
Throughout its history as a colonial territory from 1911-1945, the colony conducted two censuses. However, since Libya became an independent state, seven official censuses have been conducted. The colonial censuses were carried out sporadically and unofficially, particularly before independence when a large proportion of Libyan people lived in remote areas scattered in the Libyan countryside and deserts that were not covered by the census. At that time a huge number of Libyans had migrated to neighboring countries fearing the genocide. As a result, governments which followed the colonization era did not consider those censuses as official and thus unreliable. However, official systematic and precise censuses have been conducted each decade since 1954. The first unofficial census took place in 1931 during Italian colonization, where the survey relied on rounded figures instead of an accurate survey; the final results of this census show that the Libyan population was 654,716 people. The next census was conducted in 1936 and it confirmed that the Libyan population increased by 20% to become 732,973 people with an annual percentage rate of growth by 2.3%. This rate of increase occurred due to the stability after the suspension of the Libyan-Italian war (Pan, 1949).

Since independence and the discovery of oil in the early 1950s, Libya has experienced an increase in its population, particularly through the last four decades. As a response to that boom, one of its priorities and commitments as a nascent state has been to conduct an accurate census that can target development projects and plans in order to raise the standard of living for Libya. This census can be a fundamental base to build a strategic plan to take the country out of the quagmire of poverty and underdevelopment where it was at the beginning of independence, especially after the 1950s discovery of huge quantities of oil. In 1954 the first official census was conducted to reveal that the population showed a significant increase when compared to the census

of 1936. The final survey results confirmed that the Libyan population had jumped to exceed one million inhabitants at 1,089,000 (Lawless & Kezeiri, 1983).

The second official census took place in 1964 where the Libyan population had grown to exceed one and a half million (1,564,000) inhabitants with an increase rate of 43.7% and an annual growth rate of 4.2% compared with the previous census. The number again rose during the third official census conducted in 1973 to reach 2,249,200 inhabitants with an annual growth rate of 4.3%. In the 1984 census the population jumped to 3,642,576 inhabitants with an annual growth rate of 4.2%, the exact same rate as in 1964. This rate was registered as the second highest growth rate amongst all the countries in the world at that time (Abughlelesha & Lateh, 2013; Lawless & Kezeiri, 1983).

In the census of 1995, the Libyan population was 4,799,000 million with an annual increase of about 2.8% percent. This percentage came as a result of natural increase of Libyan population as well as immigration, by 2.5 percent and 0.3 percent respectively (Antipolis, 2002; General Information Agency, 2006). However, in the period from 1984-1995 a relative decrease in the population growth was observed. Abughlelesha (2013) stated that this unexpected decline in the rate of growth was “affected by many factors of which” the most important were: “(1) declining of crude birth rates resulting from declines in the fertility rate, and (2) decreasing of immigration rates caused by contraction of the labor market in Libya during this period due to the turbulent political circumstances that Libya had witnessed, caused by the international economic sanctions imposed by UN Security Council during 1991-2003” (p.967). The growth rate’s substantial decrease continued from 1995-2006 to reach only 1.83% (Abughlelesha & Lateh, 2013). Figure 4 show the evolution and fluctuation of population through the different censuses.



*Figure 4. Libyan Population Growth*

Source: Compiled by the Author from Libyan Census, Spatial Aspects of Population Change in Libya-1983, and Review and Analysis of the Impact of Population Growth on Water Resources in Libya 2013

The Libyan census of 2006 revealed that the total population was 5,323,991 inhabitants for both Libyan and non-Libyan residents. Based on that census, the non-Libyans were about 350,000, most of whom were from neighboring countries. This number reflects only those who had registered as official workers or visitors. However, the census shows a multiple of that number who were considered illegal immigrants and emigrants, particularly those from sub-Saharan countries. The census of 2006 reported that the Libyan population was unequally distributed, with more than two-thirds of population settled in the northern areas along the Mediterranean Sea (General Information Agency, 2006).

Based on the general census of population 2012, the demographical statistics of the country's population have faced slight changes compared to the census of 2006, as the population has reached 5,363,369 inhabitants. The census also indicates that the total number of the resident families in the country is 1,003,307 families with 959,434 Libyan families and 43,873 non-Libyan

families at 177,531 persons. The census also revealed that the total number of Libyan persons was 5,185,838. The average size of Libyan family (parents and children) was 5.41 people per one family, while the average size of a non-Libyan family was 4.05 people per one family (General Information Agency, 2006).

**Migration in chronological context.** Generally, migration is defined as the movement of people from place to place for different reasons. Brady (2008) says that migration can be classified into permanent migration, temporary migration, and voluntary or forced. Spatially, migration can be also categorized as international or internal movements. Migration generally is theorized to occur based on two sets of factors, which geographers term pull factors and push factors. Push factors are those causes that force person or group of people to leave their origin place to move to another, such as climate changes, starvation, lack of job opportunities, over-population, civil war, looking for modernity, or changing life styles. Pull factors are those forces that might inspire a person or group of people to move from one place to another specific one in search of a job or a better living. These forces are the availability of jobs, opportunity for education, and overall better living conditions (Brady, 2008; Clark & Maas, 2015). Harrison (1967) considered economic factors as the main engines of migration. He stated that migration movements are to an extent reliant on the economic development of the country or regions. For instance, migration flows from rural to urban areas and from small settlements to the big cities are in many conditions and circumstances a result of income disparities and economic opportunities (Harrison, 1967).

Todaro (1980), very much in line with Harrison, confirmed the importance of economics factor in the process of internal migration. He stated that “rapid internal migration was thought to be a desirable process by which surplus rural labor was withdrawn from traditional agriculture to provide cheap manpower to fuel a growing modern industrial complex.” Todaro (1980, p. 6)



Todaro (1980) also realized that “migration is based primarily on privately rational economic calculations,” (p.364) despite the existence of high urban unemployment; the Todaro model postulates that migration proceeds in response to urban-rural differences in expected rather than actual earnings. Since Libya became an independent state, the country has faced dramatic political and socioeconomic changes. These events caused vital changes in the Libyan social fabric in all aspects of life. One of the main changes is the adoption of urban-ward movements (rural-urban migration).

Lewis (1954), in his model justifies this trend, assuming that these movements had occurred due to the existence of numerous unproductive laborers in the agriculture sector. He also stated that this surplus of unproductive labor was attracted to the manufacturing sector where sustained high wages are available (Lewis, 1954). In Libya, this movements was aimed towards the main cities, such as Tripoli, as it is the main urban center for the country. Tripoli also is the main economic and political center in addition to the only considerable urban area in the Tripolitania region before the independence. The movement into Libya has occurred through the three stages that follow.

***Post-independence international migration stage.*** During Italian colonization (1911-1943), Libyans were kept from moving to cities and villages. However, after Libya gained independence in 1952, people were free to move to urban areas. In addition, as a result of independence and exploration of oil, Libyans who had migrated to the neighboring countries such as Chad, Egypt, and Tunisia during the WWII and the starvation era following the war, returned to their homeland in large waves to participate in the development of their country’s economy. The returned Libyan migrants tended to settle in the main cities, where employment opportunities were available in order to improve their economic situation (Farley, 1971; Harrison, 1967).

Harrison (1967) states that “there are urban attractions other than economic. For instance, a group of migrants from the same region settled in Tripoli acts as a cumulative attraction for additional migrants, and the “pull” is economic as well as social, since the longer-established migrants often arrange employment for the new-comers” (p. 404). However, as a result of the deprivation and extreme shortages of housing, people built temporary houses to accommodate their families on the periphery of the main cities, such as Tripoli (Alba, Logan, Stults, Marzan, & Zhang, 1999).

As a result of increasing immigration towards the main cities, slum settlements appeared around the cities. As a response to that phenomenon, the country instituted many housing policies in addition to short term and long term plans. Through those efforts, the government gradually succeeded in eliminating the slum settlements. International migration declined during the 1970s, with the exception of the migrants from south of the desert who had settled in the southern cities of Libya in 1990s and then moved towards the northern cities, such as Tripoli and Benghazi to live in the old walled city in Tripoli. These migrants emerged as a result of new policies based on the Libyan regime’s ideology of “Africa for Africans.” This new trend of an “open door policy” meant the opening of diplomatic relations with African countries. This policy also led a huge number of sub-Saharan Africans to move to Libya for work and for ease of transit to Europe. It has increased again dramatically since 2011 as a result of the absence of the state authority (Bredeloup & Pliez, 2011).

In addition, there is an international geopolitical dimension to this type of migration, which is to gain political dividends in order to break down the political isolation imposed on the regime by the international community. The use of illegal migration particularly from sub-Saharan countries was intended to impose policies and ideologies on the sponsors of the sanctions levied against Libya during the 1990s. This political orientation was made for the purpose of breaking

the siege and gaining new allies. This trend was also used as an alternative to oil as a weapon, which had not succeeded as a result of the presence of other donor states willing to replenish oil supplies. These types of migrants still use Libya as a way-station for entering Europe. Libya and the European Union are struggling to control migration particularly after the Arab Spring revolution (Bredeloup & Pliez, 2011).

***Intra-regional immigration.*** The urbanization process in Libya accelerated after independence and the discovery of oil in 1951. Migration is one of the factors behind the dramatic increase in the rate of Libya's urbanization. The rural to urban flow has evolved as the most important migration pattern because of the divergence among urban centers, particularly the main cities, such as Tripoli and Benghazi in the northern developed regions. Internal migration during the period 1964-1973 also dramatically increased. Between 1954 and 1964 internal migration reached a total of 52,608 migrants, but it increased during 1964-1973 to reach 256,289 migrants. Abdussalam (1983) stated that "Tripoli remained the overwhelming recipient of in-migration, receiving about forty-five percent (or 81,986 in-migrants) of the total in-migration during that period" (p.100). The rest of the percentage was distributed between the other main cities based on its importance in terms of politics and economic issues (Abdussalam, 1983). Other places in the country, however, experienced high rates of out-migration, such as Gherian, Misurata, El-Khalij, Derna, and Kohms due to their proximity to Tripoli. This reduction in population occurred as a result of migration movements to the main administrative centers such as Tripoli and Benghazi (Abdussalam, 1983). El-Mehdwi (1981) and Mandal (1981) confirmed that migration movements were a key part of the acceleration of urbanization and thus the appearance of disparity between rural and urban places within the country.

Conversely, in the last few decades, particularly during the 1980s and 1990s, the northern region of Libya and the Tripoli agglomeration in particular experienced negative migration due to a decline in rural-urban migration as well as a declining rate of natural increase in the population. Based on the censuses of 1984 and 1995, the migration flowed from the northern region, and in particular Tripoli and Benghazi, and moved towards rural areas and the new cities, agricultural projects, and industrial complexes, such as Sirt, Brega, Mesurata, and Ras-Lanuf. These movements occurred as a result of the country's new strong national and regional industrial policies. These policies aimed to develop not only the Tripoli sub-region but also all regions and sub-regions in the country in order to steer the population from the northern region towards more remote areas. These changes in economy and labor policies changed the direction of migration towards different locations in the country (General Information Agency, 2006; Salhin, 2011).

In other words, the country provided new job opportunities outside the main urban centers of Tripoli and Benghazi in order to mitigate the pressure in its primate cities and limit rural-urban migration. Tripoli is a good example of negative migration during the 1980s and 1990s, where the city received approximately 2,000 new migrants annually from many places of the country. However, the city also pushed out approximately 1,200 persons in an out-migration process annually to many places in the country. Thus, the total gain is approximately 800 persons annually. The justification to the out-migration figure was due to the desire of many people to keep their registration in their original birthplaces and visit the rest of their family members on a weekly basis, even if they were working and spending most of their time in Tripoli (Urban Planning Agency, 2007).

***Migration during the 2000s and onwards.*** The migration trends have changed substantially from the earlier migration patterns of the 1980s and the 1990s. During this period,

Libya faced new waves of rural-urban migration, particularly after several changes in the concepts and policies of the Libyan state due to the cessation of the international embargo. Even before the Arab spring revolution in 2011, Libya changed its ideology and began a new era of political and economic openings to the world. This new strategy gave the large urban areas, Benghazi and Tripoli, more economic attention. On the other hand, remote cities and rural areas were neglected. The third generation planning project of 2005-2025 indicates that rural-urban migration as well as international migration were turning or returning towards the Tripoli region, but the magnitude has become uncertain as a result of an undocumented rural-urban migration and a significant number of unregistered foreign immigrants. Precise statistics about illegal immigration in Libya and the Tripoli Region are generally not available, and such information that is available is not considered particularly accurate. Therefore, the intra-migration continued until recent years as a result of instability in the political system, and the economic inequality between urban areas and rural areas; this came in addition to the impact of desertification as a result of global climate changes. These environmental factors forced larger number of rural residents to leave their farms and residences and move towards the cities, in particular the coastal cities (Urban Planning Agency, 2007).

The magnitude of migration in Libya in general and Tripoli in particular has grown to a massive extent after the Arab Spring. According to some agencies and scholars such as the Laurent report, about 70,000 people have been internally displaced from their original places because of direct violence from revolutionary militias. The majority of these people are located in the western part of the country, which is the Tripoli region. These 70,000 displaced people have moved to the main cities, particularly to the Tripoli area, where the influence of tribal identity is less significant (Grosbois, 2012; Williams, 2013). In all respects, such as the suppression of urbanization and the

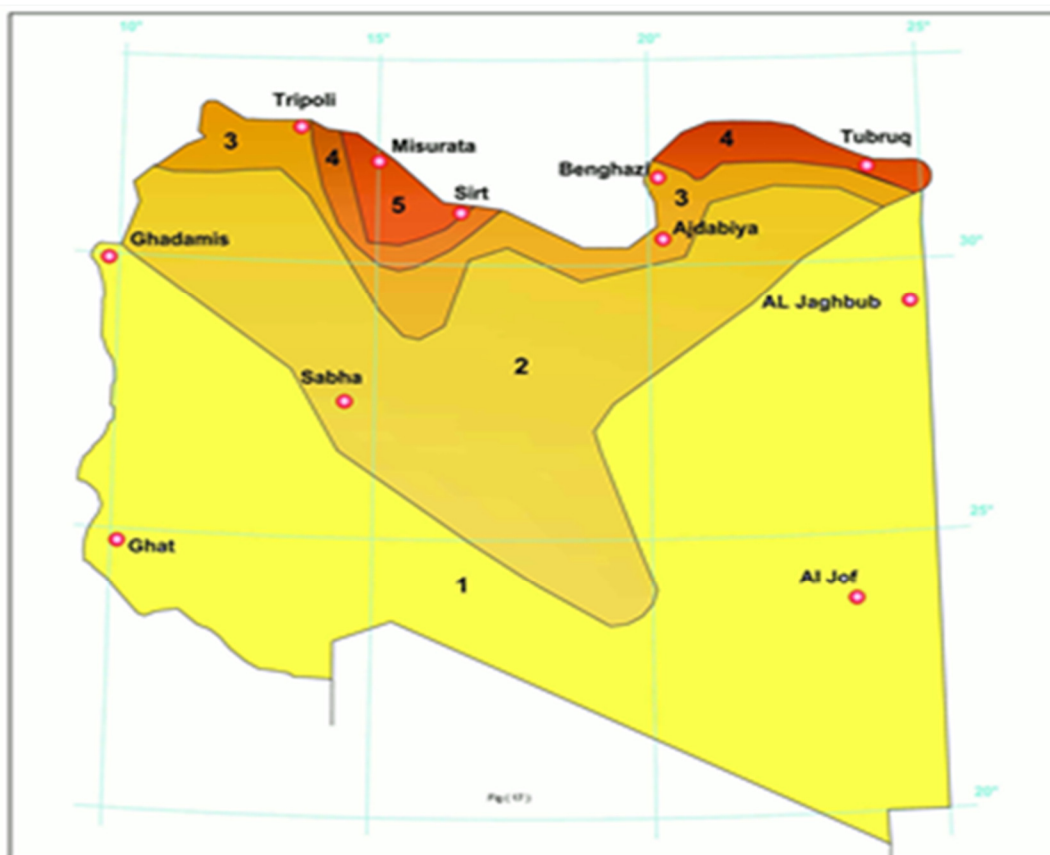
violence explosion afterwards, Libya's experience mirrors that of many other African countries (Myers, 2011).

### **Environment and Climate Setting**

In general, about 95% of Libya lies within the scope of the greater Sahara. Libyan topographical features encompass two types of terrain: the desert terrain that covers most of the southern regions and some parts of northern areas and the semi desert terrain that covers the areas along the Mediterranean Sea (Saad, Shariff, & Gariola, 2013). Sand dunes represent about 15% of the total area of the Sahara. More specifically, the land form of Libya is characterized as a narrow enclave of arable plains stretched along the Mediterranean Sea shore in the north and vast areas in the south contrasted with arid, rocky plains and great sand seas. Some pre-desert areas stretch to the coastal areas and separate the enclave's arable plains from one another. The pre-desert areas are backed by hilly areas with steep, north-facing scarps. The only area that can be described as a true mountain area is the Tibesti Mountain located in southern Sahara near the Libyan-Chadian border (El Tantawi, 2005; United States Library of Congress, 2005).

As shown in Figure 5, Libya does not have a highly active seismic area. However, different parts in the country have been affected by earthquakes of magnitude  $> 6.0$  that caused severe damage. Libya is located on the Mediterranean foreland, which is part of the African bedrock core of pre-Cambrian era. This shield has been impacted by the regional tectonic as a part of the North African craton. Libya is divided into seven seismic zones. Therefore, many parts of Libya are vulnerable (exposed) to earthquakes of magnitude of  $< 6.0$  on the Richter's scale. This magnitude of earthquakes is strong enough to create a ground motion that can cause severe damage to structures. As a precautionary step to avoid this kind of environmental catastrophe, special attention should be taken into account during the design and implementation of the buildings with

emphasized on those building that are built outside the planned areas (Al-Heety, Eshwehdi, Babah, & Elmelade, 2002; WADECO, 2000).



*Figure 5. Seismic Condition*

Source: National physical spatial 3<sup>rd</sup> generation, Urban Planning Agency

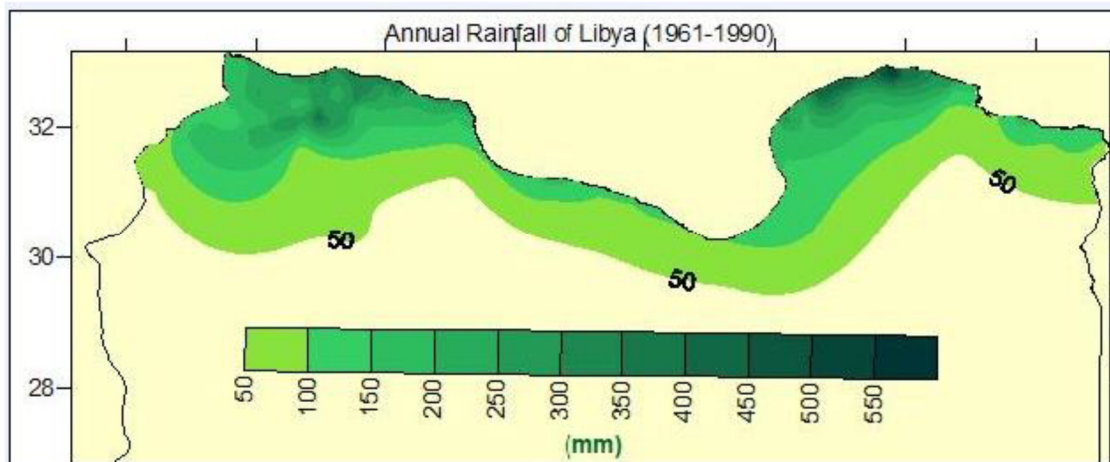
**Climate condition.** Study climate is considered essential in contemporary urban planning processes. Climate change might affect urban environment in different ways. Blakely (2007) stated that climate is “affecting urban living in every respect from ‘heat islands’, continuous light and sea level changes as well as severe droughts and floods paralyzing urban areas. Urban planning implications are reflected in buildings, street and community design for more environmentally sustainable cities.”(p.1) He also suggests that these implications might cause “radical changes to how cities and suburbs are planned, designed or re-designed.” (p.5) Climate is also responsible for

population movements such as rural-urban migration which result, in many cases, in the emergence of squatter settlements in most developing countries, particularly on the African continent (Blakely, 2007).

The climate in Libya varies; the very northern coastal part enjoys a Mediterranean to semi dry climate. This type of climate is characterized by hot, dry weather in the summer from April through September and cool, wet weather in winter from October through March. This region has an average monthly temperature from 35°C in the summer season to 5°C in the winter season. The Mediterranean climate disappears the further south toward the desert one moves; there the temperature can rise to between 40 °C and 50°C for a few hours. The southern region is influenced by the dry desert climate and characterized by dry heat in the summer and dry cold in the winter since it is a desert (Ibrahim, 2011; Saad et al., 2013). The rainy season begins in the fall and continues until spring, but rarely lasts in the summer (Ibrahim, 2011). Elfadli (2009) wrote that the:

rainfall averages ranged in these areas (north of Libya) from about 200 to 500 mm, with a maximum of recording on the regions of Jabal Al Akhdar ("the Eastern Highlands") where was about 850 mm, and to about 750 mm on Jabal Nafusah areas ("Western Highlands"), while the number of rainy days ranged between one month and three months. The maximum rainfall in a day reaching to about 150 mm, especially in the closest regions of west and east of Tripoli (p.1).





*Figure 6. Annual Rainfall of Libya*

Source: Precipitation data of Libya-by Khalid Ibrahim Elfadli, 2009

Libya is vulnerable to a type of desert harmful winds called “Ghibli” which translates as “southern.” This type of wind exacerbates the drought situation in the northern part of the country. This wind blows from the southern desert towards the northern coastal areas in the summer and is particularly present from April through August, although also sporadically throughout the year. These winds can carry sandstorms that have a severe impact on the coastal area crops. However, in the winter, beneficial winds generally blow from the northwest that carry a significant amount of rain (El Tantawi, 2005).

### **Economy and Employment**

Society, environment, and economy are considered three pillars for sustainable development. The main objective of sustainable development is to accomplish economic development through promoting economic efficiency and competitiveness, and thus productivity. The key element to achieve the objective is planning, where planning can play a significant role in making suitable land for the purpose of development in line with available capital. Another objective is maintaining and improving the surrounding environment and thus mitigating the effects of environmental instability as a step to improve the quality of life.

As indicated by Hartley (1968) “the process of economic transition is permeating the country's social, political and cultural structure, though at a faster pace than the resultant demographic changes” (p. II). In the planning perspective, the economy is a vital element in the success or failure of the urban planning process. The failure clearly appears in the planning formulation as well as its implementation. The population migration for instance is related mainly to the economic changes. Hartley (1968) also stated that “The cause of this increased population mobility is primarily economic although its precise form is also determined by the physical, social and cultural environments.” (p. II) The alteration of economic changes and its impact contributes to the appearance of informal settlements as in most developing countries, especially those states with a weak economy and low natural potential. The following paragraphs examine the economy and rate of employment in relations to Libya in the context of a model of transition developed through many decades where the country experienced demographic and economic transformation.

Since its independence, Libya's income from being an oil exporting country has led to a high standard of living for its citizens. The oil sector economy is the single most important income source in addition to other sectors, such as trade and commerce, transport, professional services, manufacturing, and the construction industry. However, after the cessation of sanctions in the late 1990s, Libya took a step forward towards globalization and privatization in order to attract foreign investments, particularly in the oil sector. It also sought to invest in other sectors in order to diversify the economy from its oil reliance. This process of diversification is a step to induce growth in employment opportunities. The state also planned to improve income and to introduce policies that facilitated the broad participation of the private and public sectors, particularly in the few years leading up to the overthrow of Gadhafi 's regime in 2011 (Antipolis, 2002; Stiftung, 2009).

Since the start of the actual production and export of oil that brought huge profits, Libya has been transformed from a state that was totally rural to the most urbanized country in Africa. As a result of that situation, about 72% of the country's workforce was employed in the administrative sector and no longer relies on the agriculture sector. This economic and demographic change was a result of the exodus of rural populations to coastal cities, such as Tripoli and Benghazi, and thus the marginalization of rural areas (Elbendak, 2008; Porter & Yegin, 2006).

In spite of overall strategies that aimed to provide job opportunities to mitigate the rate of unemployment, pre-Arab-Spring Libya still had rampant unemployment, especially among the educated youth. Based on studies conducted to appraise the economic and labor force in the state in 2005, it was estimated that around 30% of the labor force were classified as disguised unemployment. Some of these studies suggest that the reason was the policies of the Libyan state, since that policy was applied as a socialist oriented philosophy in all articulations of the state, including the reliance on a single revenue source, oil, and also excluded the private sector from the economic arena of the state (Division, 2005).

### **Politics and Administrative Division and Its Form**

Since the declaration of the era of the masses in 1977, the Libyan administrative division has faced dramatic changes. In 1977, the country had been organized into thirteen municipalities (Baladyas). This situation continued until 1995, when these municipalities were renamed *sha`biyahs*, which referred to provinces or counties based on what was called Gadhafi's third world theory. Each district was divided into 1,500 Mahalalat, which translates to "communes." These communes were considered to be the smallest administrative and political divisions, and each commune was provided with a separate budget, legislative, and executive power (Ahmed, 2013).

Each administrative division was controlled and directed by both the revolutionary committee and the local secretaries in order to push all people to participate in the decision making process. In 1998, the country reorganized again by increasing the number of sha`biyat to a new total of twenty-six sha`biyat. In 2001, it changed again by increasing the administrative division to thirty-two districts as shown in Figure 7. By 2007, the administrative divisions were decreased to twenty-two districts. However, this system has been shown as problematic, as noted in several international reports such as those of the BTI<sup>2</sup> and the UN. Stiftung (2009) stated that

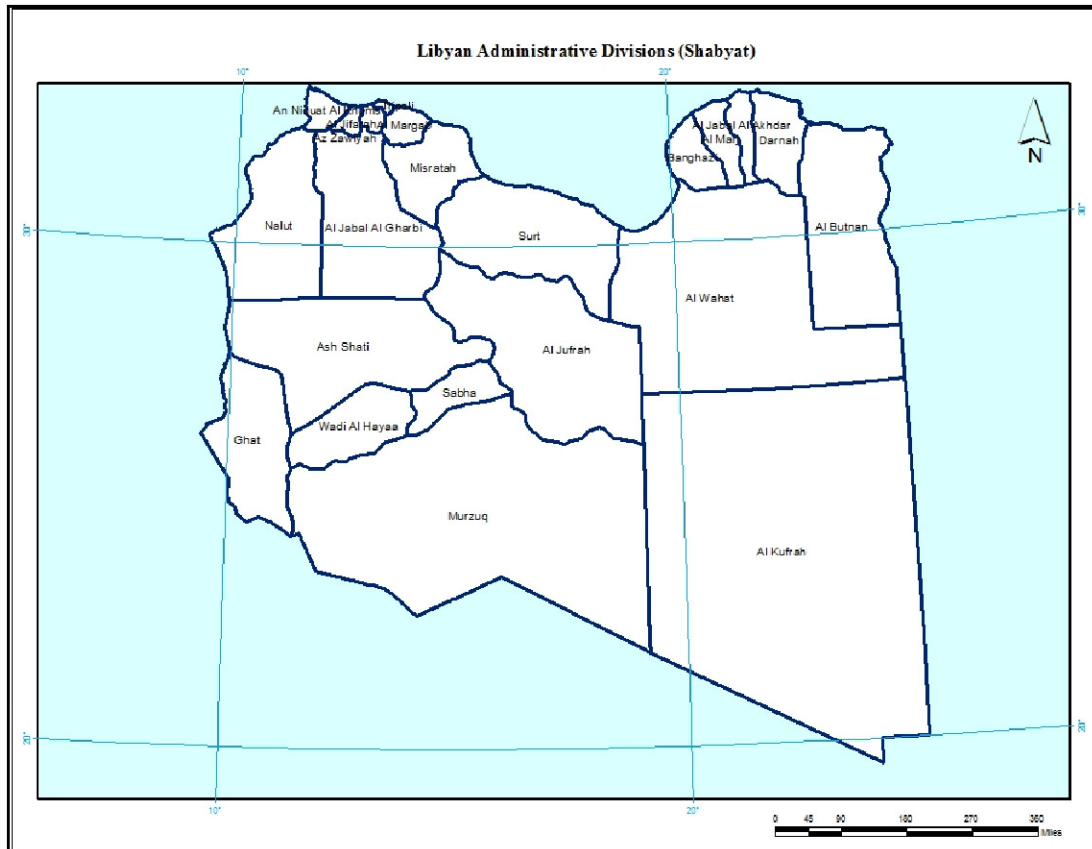
The nationwide administrative system has extremely bureaucratic tendencies and is involved in jurisdictional disputes. However, it suffers from widespread corruption and low technical skill levels. The introduction of a regional administrative level, the Sha`biyat, has not improved the efficiency of the administration (P.5).

This situation continued until the Arab spring that ended four decades of bungling with the administrative and political systems of the country (Ahmed, 2013; Stiftung, 2009).

Politically, each Sha`biyat (districts) and commune has its own legislative and executive powers. There was a limited electoral system in Libya for all administrative and political divisions. However, political parties were prohibited by the ideology of the Gadhafi's third world theory and it's Green Book; if they existed they were working clandestinely.

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<sup>2</sup> The BTI is a global ranking of transition processes in which the state of democracy and market economic systems as well as the quality of political management in 128 transformation and developing countries are evaluated. The BTI is a joint project of the Bertelsmann Stiftung and the Center for Applied Policy Research (C•A•P) at Munich University.



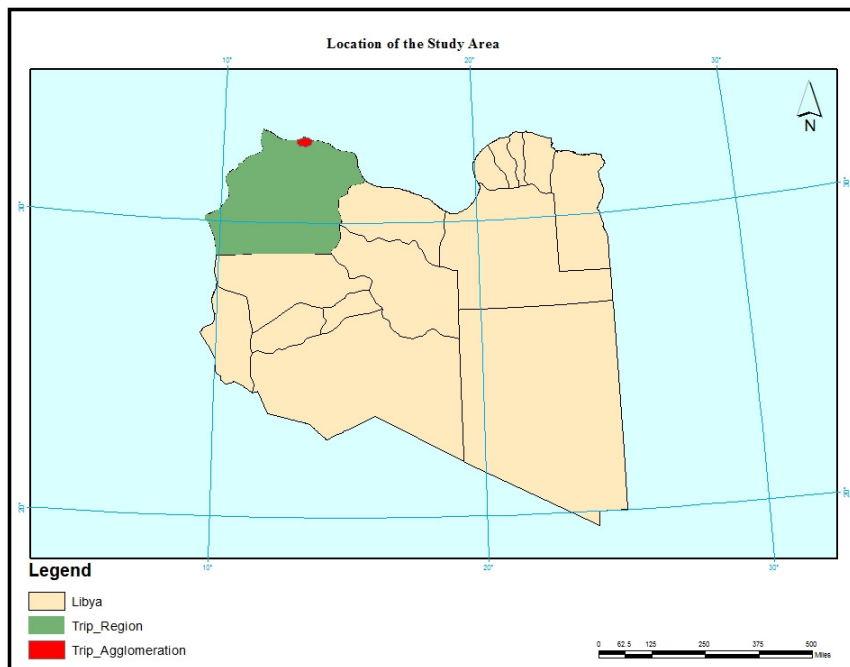
*Figure 7. Administrative Division of Libya*

Source: Drafted by the Author from Urban Planning Agency (2007). 3rd Generation Planning Project.

Theoretically, both were supervised by the general people's committees, but in fact, Gadhafi had full authority to change any law, or any decision taken by the committee or a commune under the pretext of revolutionary legitimacy that he granted to himself and to his loyal followers in the power provision. In addition, based on Stiftung (2009) the masses system "had itself been through various phases, albeit without significant change to its central mechanism of governance, marked by Gadhafi's control of the system through...Revolutionary Leadership."(P.3) This situation persisted until 2011 where the entire political and administrative system ceased as a result of the collapse of the country and removal of Gadhafi's regime.

### The Area of Interest (Regional and City Agglomeration Context)

Tripoli is the main urban center in the state as well as in the Tripoli region. The Tripoli region is one of four planning regions in the country. It is located in the northwest part of the country along the Mediterranean coast. The territory covers an approximate area of 193,610 km<sup>2</sup>. The total area of the region is estimated at around 11.5% of the national area of Libya (WADECO, 2000). According to the 2012 census, the Tripoli region was populated by 3,493,759, people which represented about 67% of the total population of the country (Engineering Consulting Office for Utilities, 2009; General Information Agency, 2012).



*Figure 8. Location of the Study Area*

As shown in Figure 8, the region consists of five sub-regions: Tripoli sub-region, An Niquat Alkhums (Zwarah) sub-region, Aljabal Algharbi (Nefusa) sub-region, Misratah sub-region, and Almargab (Al Khums) sub-region. The Tripoli sub-region is the largest in terms of population

and also plays a significant role in economic activities and urban development for the entire region (Engineering Consulting Office for Utilities, 2009; General Information Agency, 2012)

**Tripoli agglomeration.** In addition to the administrative division, Libya was divided into planning divisions<sup>3</sup>: 4 regional plans, 13 sub-regional plans, 2 agglomeration plans, 37 master plans, and 167 layout plans (cities, towns, or urban centers). Tripoli as an urban agglomeration is the main part of Tripoli sub-region. Tripoli is the biggest and most important city in the region as well as the country (Jusoh, 2008).

The Tripoli agglomeration has an area of 1595 km<sup>2</sup>, which is 42% of the total area of Tripoli sub-region. As shown in Table 3 and Figure 9, the area of the Tripoli agglomeration is comprised of six urban centers: Tripoli, Tajora, Janzur, Wadi-Alshargi, Alswani, and Ben-Gashir. Based on the 2006 census, the Tripoli agglomeration represents around 85% of the population of the sub-region. This is 27% of the total population of the state. However, the population of the city of Tripoli alone is 1,344,000 people including Tajora and Janzur. The main reasons behind the concentration of such a large number of the population in this particular part of the country came as a result of natural increase of the population in addition to the continuing waves of immigration. This situation is the result of the application of the system of centralization with regard to the services and economic activities (Engineering Consulting Office for Utilities, 2009).

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<sup>3</sup> Planning divisions are not administrative division. Planning division might comprises one or more administrative division and vice versa. For instance, regional planning division is mainly a provision system used during formulation and implementation of planning schemes.

Table 2.

## Population Distribution of Tripoli Agglomeration

City	Pop.# 1980	Planned forecast/2000	Pop. 2006
Tripoli	784,000	970,000	879,000
Tajora	47,500	122,000	88,000
Janzur	29,200	175,000	67,000
Bin-Gashir	9400	15000	31,000
Alswani	4200	5000	21,500
Other Small Settlements	119,700	100,000	250,700
Wadi-Alshargi	-----	313,000	2000
Total of Agglomeration	994,000	1,700,000	1,339,600

Source: Compiled by the Author from Bureau, N. C. 3rd Generation Planning Project, 2009

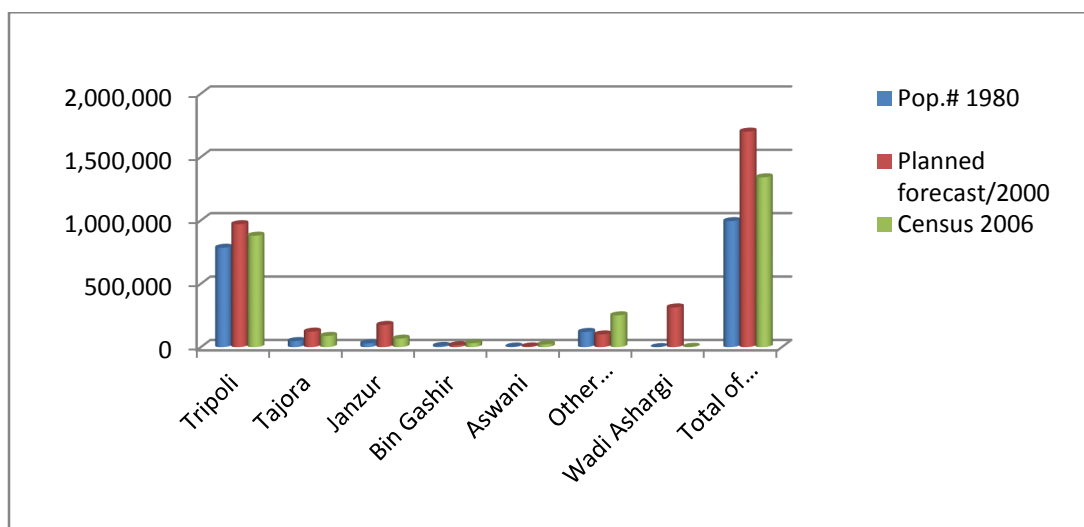


Figure 9. Population of Tripoli Agglomeration

***The history and evolution of Tripoli city.*** The reason behind researching the evolution of the city through many periods is to understand the changes of the city's identity. Understanding its evolution is essential in order to figure out the key external and internal forces that might influence the recent physical shape and environment of the city. It also provides a sign concerning



the incidence and prevalence of squatter settlements through its evolution and passing different phases of economic, social, and political situations.

Throughout its long thriving history, Tripoli has been a city that super-powers want to control. This city has been desired by many countries, empires, and dynasties for several reasons. One reason is its strategic location that tied Africa to the other continents, particularly Europe. It is near to the middle of Europe and it is a great location for traveling to the rest of the world. In addition, it is in a physical area that has many resources that other countries need to survive. Libyans in general and Tripolitania in particular were for a long time tired of the wars and the colonial powers that kept Libya from rising up and being developed (Fuller, 2007). The following paragraphs tell the stages of the city's evolution as it coincides with different historical events.

Tripoli's distinctiveness stems from the diversity of its neighborhoods that represent different periods for different civilizations. All the areas together create a significant mosaic which in turn characterizes the city by its highly valued architecture. Each period of civilization left a distinctive imprint in terms of architectural style and organization of buildings and streets. The city as a whole mirrors the diversity of fabrics and heritages of the different cultures that have influenced the city since its establishment by Phoenicians, and through its many invading civilizations and colonizers, such as the Greeks, Romans, Arabs, Turkish, and Italians (Rghei & Nelson, 1994). Rghei and Nelson (1994) also stated that the city "follows no system and provides a clear example of organic growth" (p.144). But in reality, the city has followed many systems and undergone bursts of organic growth surrounded by ambitious state-led plans.

The city evolved and thus its structure has changed through different time periods. The historical evidence of the city shows that the evolution of it can be divided into three stages: the pre-colonial stage (seventh century BC-1911 AD), the colonial stage (1911-1951), and the post-

colonial stage from 1951 and onward. In the pre-colonial stage, Tripoli was an urban settlement rooted in the trade patterns and economic networks of that ancient time. It was established in the Phoenician era in the seventh century BC. The Phoenicians had chosen this place in order to establish a new trade center on the south bank of the Mediterranean Sea. The city faced limited growth due to its function as a commercial center. The Phoenicians gave more attention to the city of Carthage in what is now known as Tunisia while imposing restrictive policies for nearby cities, such as Tripoli, based on its function as commercial center (Ksheddan, 1984; Rghei & Nelson, 1994).

Around 100 BC, the city was thriving during Roman rule as one of three important cities on the south shore of Mediterranean sea. The Romans made many changes and built many services, such as markets or public paths, and different residential quarters. The city was redesigned in a pentagonal form, which was a common shape at that time for Roman cities. The city's name changed during the Roman rule to become known as "Oea" as a part of the African Tripoli. Oea city (Tripoli) is one of the three cities built by the Phoenicians in the North African shore in conjunction with Sabratha and Leptus-Magna (Ksheddan, 1984; Rghei & Nelson, 1994).

The city of Tripoli became a Muslim city in 642 AD. During this period, it experienced an increase in population and urban development as many residences, schools, and shops were built to serve the existing city-dwellers as well as new comers. The city maintained its expansion during the Islamic eras and through the Ottoman Turks' Empire; it became known as Medina, or the walled city. During the Ottoman rule, Tripoli faced several armed confrontations between Arabs and the Knights of St. John and Spanish forces. In that era, large parts of the city were destroyed (Micara, 2008; Salhin, 2011).

In the eighteenth century, Tripoli witnessed several attacks by the United States marines and French forces, the so-called four-year war that ended with the Tripoli Government controlling most of the Mediterranean and its trade routes. This confrontation occurred over these main trade routes, by which the Mediterranean Sea connected the old world and new world represented in Americas. During that period, parts of the city were devastated but then renovated after the cessation of the war (Rghei & Nelson, 1994).

During the nineteenth century and at the beginning of twentieth century, the city reached its highest evolution as a capital of the Tripolitania territory under the role of the Ottomans, particularly during the rule of the Karamanli dynasty from 1835-1911. Many urban reforms as well as social and economic changes occurred. Karamanli rulers built administrative and residential buildings outside the border of old Medina, particularly in the southern areas along the sea (Kshedan, 1984).

The old walled city is considered the principal historical part of the Tripoli metropolitan areas, and it is the starting point of all consequent developments and growth of the city later. The fame of this legendary city came from its long history in facing many waves of colonialism as well as the architectural and cultural heritage that make it a prominent place among the ranks of historic cities in the world. As an Arabic-Islamic city, the Tripoli plan was consistent with irregular orthogonal narrow streets. Bianca (2000) stated that “the public street network of traditional Islamic cities was reduced to the sheer minimum required to provide connections between the main city gates and the central markets and to ensure the selected accessibility to private quarters.” (p.38) Since the Italian invasion in 1911, the old walled city has formulated the main portion of the central areas (CBD) of the Tripoli metropolitan (Bianca, 2000).

After that time, vital changes and additional services, such as the central bank and the main ports located in the eastern and south east part of the city were added to the structure of the city (Belgasem, 2005). The morphology of pre-industrial Islamic cities particularly those located in North African cities, such as Tunis, Algeria, Cairo, and Tripoli are being confronted with contemporary civilization that occurred after the industrial revolution. As a result of that reason many Islamic historical landmarks were distorting. Despite these changes, the old walled cities still play substantial key role as trade and service centers (Abu-Lughod, 1976; Bianca, 2000).

The overall layout of the city most likely reflects the ancient Roman routes or the old traditional Arab cities. The city is characterized as having a unique urban morphology that is represented by condensed building that are mostly residential. Belgasem (2005) described the structure of the city and its morphology:

It's dense and interconnected building structures and by its extended narrow winding streets...The streets, designed mainly for pedestrians, are discontinued by small irregular squares and flanked by private courtyard houses, shops, and monumental buildings, such as mosques. These urban elements were small homogenous elements with no special preference of one element over another (p.3).

The old walled city represents the ideal example of old Arab-Islamic cities, particularly those cities established after the Islamic conquest of North Africa when large waves of Arabs flocked to these areas. The city gained more attention and thus thrived during the Islamic Ottoman period (Hakim, 1986; Saoud, 2004).

*The colonial stage.* Italy's claim to Libya dates back to 1884-85, when many European countries met in Berlin to discuss how to occupy Africa and cease the conflicts between themselves. Based on that meeting, Italy claimed Tripoli as a result of their proximity to that land.

The Berlin conference only brought claims of control and dominance for the western powers while it sowed the seeds of separation, poverty, and religious conflicts on the African continent. However, the formal establishment of actual colonial rule took time and plenty of force; this program of pacification involved bringing modern European concepts of urbanism to the Europeans' colonies in Africa. This phenomenon began in Libya with the Italian invasion in 1911 (Förster, Mommsen, & Robinson, 1988; Myers, 2003).

Most colonial powers exploited the wealth and natural resources of nations they dominated, while Italian colonialism came to incorporate new pieces of land for the purpose of permanent settlements. Therefore, Italy considered Libya as an essential part of Italian land, to the extent that Libya was called the fourth beach of Italy. Since the beginning of its occupation, Italy established commercial banks and a complete group of settlements in the east and west of the country with, Tripoli viewed as one of those settlements (Fuller, 2007).

The importance of Tripoli in terms of military strategy, economics, and geography meant that the Italian government gave special attention to this area. As in many cities in Africa, particularly the North African cities, Njoh (2010) mentioned that

European colonial powers were largely responsible for introducing Western urban planning concepts and models in North Africa...they encountered well-developed densely populated Islamic walled cities with no room for expansion. Accordingly...they developed new planned spacious layouts based on European principles to serve as exclusive European enclaves...In Algeria, Tunisia and Morocco, colonial urban planners developed new layouts that reflected French urban planning style as well as urban features. The new towns contained broad, straight boulevards separating city blocks, minor feeder streets and plots

dividing the blocks and high density multi-story buildings concentrated in terraces within the center. (p.54).

In the case of Tripoli, Italy began by summoning its famous architects to establish commercial, residential, and administrative quarters instead of using the old walled Arab city. This decision was taken because walled Medina did not meet the needs of modern life for the new settlers. Furthermore, perhaps the government did not want direct contact with indigenous people who knew them during the war. From this standpoint, the Italian government began to prepare an urban planning scheme to fulfill the needs of Italian colonial expansion (Fuller, 2007; Njoh, 2010).

The first planned schemes began in 1914 in order to regulate administrative buildings in addition to establishing new residential areas. This plan was based on the most modern European principles of urban planning at that time. The key approach of this scheme was to structure colonial expansion by establishing a new city for metropolitan residents. The colonial government confirmed the area south of the old walled city to be the place of the new development. The Italian planners adapted the idea of a garden city during the preparation and design of the new planning scheme and proposed that the urban center would be alongside the existing Ottoman castle. The street network of the city was designed based on the existing routes that radiated from the old city, particularly its castle (McLaren, 2006).

The Italian district was established after the invasion by Italy in 1911 and continued until independence in 1951. The first plan of 1914 was then followed by a re-appraisal and upgrading of the plan in 1934, particularly for the central areas of the city. The Italian planners and architects left their marks in this district in terms of the planning patterns and architecture types (Azzuz, 2000; IAURIF et al., 2008). The city became the main commercial center of European trade as a

result of its strategic location and the importance of its port. In the beginning of the twentieth century, the walled city areas covered about 64 hectares. The Italians gave importance to Tripoli when they assigned it the role of colony capital (Rghei & Nelson, 1994).

The first plan in 1914 adapted and preserved the existence of some Ottoman buildings. The district also was characterized by a more organized urban fabric, where the streets were wider and connected directly to the main square near the old castle. Most of the streets network was radial and ran north-south. The overall street pattern was planned according to the most common pattern during the nineteenth century in Europe, known as the grid pattern. This area is considered the central area of Tripoli city, and it is where most of commercial activities take place. The buildings of the district in general consist of low-rise buildings. The dominant use of this area is mixed between commercial and residential areas. The open spaces are relatively low in this district due to the density of buildings. This district has Islamic and baroque influences, which clearly appear in city features. The northern parts of the district overlook the sea front, where its main buildings, such as banks, hotels, and administrative buildings exist. This district still preserves its identity as a central business district in terms of urban fabrics and architectures (Ammora, 1998; IAURIF et al., 2008).

As a result of the excessive Italian migration to Libya, soon the need for a new plan became an urgent issue and one of the government's priorities. The second modern plan was established in 1931-1933 and was completed and passed into law in 1934. The 1934 plan was prepared to regulate the area with a total population of 88,900. The Tripoli population had grown between 1928 and 1933 from 63,400 to 88,900 inhabitants (Fuller, 2007; Khuga, 1969).

The city had spread into several large new residential areas and industrial areas: a low density area of small villas was reserved for Italians while the areas that surrounded the industrial

areas were mainly reserved for the Libyans for work. As was common in the African continent in general and North Africa's cities in particular such as Cairo, Rabat, and Tunis, the colonial new plans created clear segregation between the natives and the new modern Italian neighborhoods. As stated by Bayat (2012), modernity transformed and shaped the city into a novel fashion while it created class-spatial as well as racial segregation. However, the segregated plan had advantages, as it protected the old city from the encroachment of the Europeans' new architecture. The colonial architects made this segregation invisible between the Libyans and the new-comers' neighborhoods by constructing a new traffic system between the walled city and the new quarters. The master plan was divided into discrete zoning for metropolitans (Italians), natives, and areas for industrial use (Bayat, 2012; Fuller, 2007). However, Altekamp (1994) stated that the new plan came about in order to preserve the intense human heritage that Tripoli city represented in the castle and other civilizational remains (Altekamp, 1995; Njoh, 2010).

The master plan of 1934 is a good indicator of segregationist discourses in addition to the social and institutional marginalization of Libyans. As mentioned by Fuller (2007) the population of this plan was distributed "according to their calculation, 50,000 people of "mixed population" lived in the center; 19,000 people (of unspecified ethnicity) inhabited the old city; 7,000 resided in "exclusively native" outer areas; low-density quarters for metropolitans housed 8,000 people occupied the rural areas" (p.160). The planners intended that this division would mitigate the old city population and raise the density of the mixed areas. In other words, the master plan was prepared based on the assumption of protecting native areas, such as the walled city, and developing new areas for the settlers near the native areas in order to provide benefits for Europeans who needed to use local or native labor. The plan also used a tactic of dispersing natives into clusters in order to mitigate their unity and empty the old walled city and use it as a tourist



site. This is the pattern and intent of spatial segregation for colonial cities in Africa (Kshedan, 1984; Myers, 2003, 2011).

*The post-colonial stage.* The modern areas were established after the state gained its independence in 1951, coinciding with the rule of King Idris Sanusi, the first Libyan governor after Libyan consolidation. During this period, the city experienced fast growth and new urban planning and architectural design even though the entire city continued to reflect the interests and desires of foreign societies in a manner which continued to exist until the coup of 1969. After this period, many residential districts and public buildings were built with a design that reflected a unique Libyan pattern. These districts pattern were planned according to the systematic urban planning schemes where the streets are characterized by curved streets, ring roads, and parking areas. The mix of high rise and villa types of housing in addition to individual traditional houses became dominant in this period (Engineering Consulting Office for Utilities, 2009; Shawesh, 2000).

However, the largest proportion of the area still relied on the central areas in terms of commercial areas, in spite of the existence of commercial centers that were in different places throughout the district. The industrial areas were located in the south and south-west areas of the district, particularly along the Al-Sawani road. This area recently was demolished for the purpose of development. The city has many open spaces, public gardens, and recreational areas, such as a zoo and sports facilities (Engineering Consulting Office for Utilities, 2009; Shawesh, 2000). The city faced enormous amount of change as a result of waves of migration following the discovery of oil in 1951. Many shanty districts were built around the city due to those waves of emigrants. New plans and strategies were created to mitigate the city growth and re-accommodate the shanty residents. All governments and political systems that successively controlled the country after

independence have paid attention to the development of cities in Libya, and Tripoli in particular, as a result of its importance economically and politically. A comprehensive scheme and housing policy were created in order to contain urban sprawl and population growth through the establishment of three long-term planning generations. These plans will be discussed in detail in the urban planning system section.

**Land use pattern.** In the national context, the country introduced land use as a step towards overall development in order to sustain its national development. The Libyan development plans over many decades were not based on a diversification approach; instead they remained centered on the oil sector until recent years. However, the Libyan government 1969-2011 had been desperately seeking to diversify its sources of income and development instead of relying so heavily on oil. As a response to that concern, Libyan authorities made national physical plans to build new economic plans. The first national physical plan of 1980-2000 was made in order to pay attention to land use management in all administrative levels in order to conserve and prolong all existing and future assets. Therefore, land use encompasses a systematic arrangement of activities and practices to reduce uncertainties that might arise in the future (Otman & Karlberg, 2007; Urban Planning Agency, 2007). Thus, land use planning and regulations provide key factors achieving the socio-economic and environmental sustainability.

As shown in Table 4, Libya is a desert country, and only 2.5% from its territory, equivalent to around (43.120) square km, is exposed to a significant rainfall at the rate of 150 mm or more each year. A quarter of those areas are exposed to 300 mm each year. However, most of the rainfall areas are not suitable for agriculture purposes, such as mountains or the built-up urban areas that are expanding and spreading each year. The total area of arable land that is directly dependent on rain water does not exceed 1,181,800 hectares, which represents 0.71% of the country's total area.

Most of Libya's arable lands are concentrated in the Jabal Al Akhdar (Green Mountains) in the east and the Jifarah Plain in the north-west part of the country (Library of Congress. Federal Research, 2005; Urban Planning Agency, 2006).

Table 3.

*Land Use Patterns*

Land use	Area/KM square	Percentage/ total area
Urban Area	3.888	0.23
Irrigated agriculture land	11.818	0.71
Pastoral lands	70.000	4.18
Forest	5,000	0.30
Desert	1.583.871	94.58
Total	1.674.577	100

Source: Drafted by the author from 3<sup>rd</sup> Generation Planning Project, National spatial policy 2006

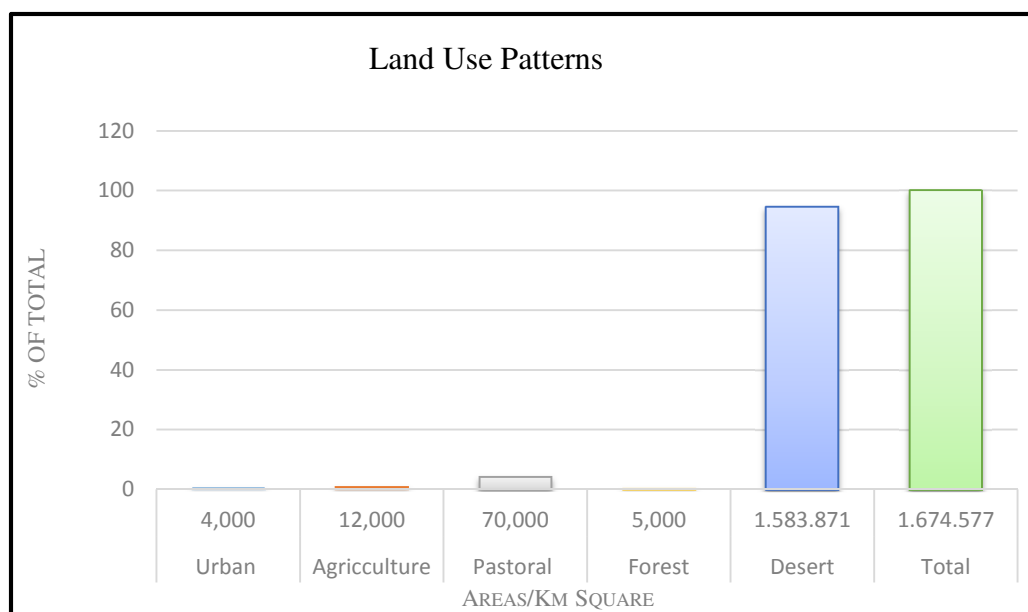


Figure 10. Land Use Patterns

About 0.17% of the arable land is dedicated to the cultivation of permanent crops. Approximately 4% of the total land is considered appropriate for grazing livestock, while the rest

is not suitable for agricultural purposes as a result of droughts and harsh weather. The pastoral land is concentrated in areas with rainfall of 50 mm to 200 mm per year, with a narrow strip stretching along the coast heading south from the areas of rainfall. The forest areas in Libya are few, and they are located in northern areas, particularly in the natural reserves in the northwest and the northeast (Library of Congress. Federal Research, 2005; Urban Planning Agency, 2006).

In the case of the Tripoli agglomeration, the dominant portion of the land use is agriculture use, with 37% along with a few urban settlements used as rural service centers. The major portions of urban settlements were concentrated along the Mediterranean coast. This area has the highest population density in the country. In the third planning project report 2006, the urban areas reached about 232 sq. km, while in 1980 there were only 122 sq. km within the Tripoli agglomeration (Bureau, 2009).

## **Chapter 4: Evaluation of Housing and Planning Policy in Libya**

### **Housing Policies**

Nowadays most countries contend with population growth and housing shortages; this has been especially true in the last decades of the twentieth century and beginning of the twenty-first century. This dilemma has of being unable to control the increase of population or provide adequate housing for a majority of their people has become common in developing countries in general and African countries in particular. Housing demand varies from one state to another. However, this variation depends on the characteristics of each country. Housing deficiencies can extend to affect many state sectors such as the economic sector, and thus the state will not be able to satisfy their people's need (Sheibani & Eaton, 2008).

Libya is no exception to this process. Urbanization and population growth in Libya have caused many problems in a multitude of areas. These problems are considered significant obstacles not only in Libya but in most North African countries, particularly poorer ones. Since Libya became an independent state it has tried to overcome this issue through adopting different plans, programs, and policies in order to satisfy Libyans' increasing demands as well as tackling housing shortages. However, in spite of those efforts, the accomplishments have been very limited due to many factors. This chapter provides ideas regarding the success and the failure of the authority in solving the shortages of housing. Failure in this issue is linked to many problems in Libyan society, such as steering people to handle their housing needs informally. The worst consequence was the emergence of so-called squatter settlements around the main cities.

The Libyan housing policies are classified into three phases. The first phase is the post-independence stage covering the period from 1951 to 1969. In this stage Libya had limited resources when the discovery of oil was still in its early stages. This stage was limited to building

and repairing what was destroyed during World War II. In that war, Libya was the scene of hostilities between the Axis powers and the Allies, which ended in victory for the Allies. During this time, Libya had a contribution it could use for housing supply to the extent that housing was left for the people to do by themselves due to the economic recession. The state also still building its institutions and legislative role as it was a developing country. As a result of the limited possibilities for citizens, they relied mostly on cheap building materials, causing a proliferation of slums around big cities like Tripoli (Amer, 2007; Mukhtar, 1997).

In the 1960s as a response to the miserable living conditions in the whole state, the country adopted its first five year plan for the purpose of providing affordable housing and infrastructure to low income people. This plan proposed urban housing programs, rural housing programs, and special housing programs. Each program aimed to develop and provide different housing types. The urban program mainly dealt with the urgent situation within cities. The rural program aimed to provide affordable houses to settle rural people in order to limit rural-to-urban migration. The special program was proposed to cover some places in the country such as Al-Marej city that affected by nature disasters in 1964. Through this period, the state succeeded in building 5,217 units; of these, 2,912 units (55%) were built by the public sector while the private sector contributed 2,305 units (45%) (Mukhtar, 1997).

The second housing policies stage covers the period between 1969 and 2000. This period coincided with significant political changes in the country, which came when Colonel Gadhafi came to power after the overthrow of the monarchy. This stage was characterized by building a large number of housing projects for those urgently in need, particularly in the slums areas, as well as to settle nomadic tribes. This period coincided with the establishment of a socialist system that aimed to provide equal services to all people in the state. Based on that philosophy, the state

provided loans with no interest as well as housing units free of charge, particularly within rural areas. The state gave more attention and priority to the housing sector, to the extent that it was 19% of the total annual budget for the state (Amer, 2007).

This period was characterized by the establishment of a new public housing institution, and a general housing corporation (GHC) for the purpose of finance, design, and follow-up on housing plans and the construction process. The new housing institutions, particularly the GHC, constructed around 88% to 95% of the total units that were built during the 1970s. This plan was successful due to the creation of interest free loans which in turn encouraged the private sector to participate in the success of this plan. During this plan, the state housing institutions conducted comprehensive surveys of vacant lands inside of the urban areas; they also targeted land in rural areas in order to establish housing projects based on the recommendations in the five year plan. The plan also aimed to build complete settlements that included houses and infrastructure. The target number of dwelling provided by this plan was 562,000 units by the year 1990 (Amer, 2007; Mukhtar, 1997).

However, the plan did not accomplish its goals due to many reasons, including the abolition of the so-called secretariat of housing and transfer of its administrative portfolio to other secretariats, such as the utility secretariat. Therefore, as a result of that arbitrary decision, an overly bureaucratic system and an overlap of responsibilities occurred and affected the housing process. This decision affected the state housing policy, which in turn led to the loss of management and control in the housing sector. In addition, declining levels of funding due to the falling world oil prices and further international isolation imposed on Libya against the backdrop of accusations of supporting terrorism all led to the deterioration of the implementation level and the monitoring of the projects' process (Mukhtar, 1997).

In spite of the intensive efforts to overcome housing shortages in Libya and Tripoli in particular, the Libyan housing market still suffered due to the accumulated shortfall over several years. It also happened as a result of reductions in the contribution by the private sector, particularly in the period of 1980s and 1990s. As reported by (Urban Planning Agency, 2007)

Government support to housing was reduced due to shortage of public revenues. The annual rate of housing production in the Jamahiriya decreased from 8-9 units per 1,000 inhabitants during the 1970's and the early 1980's to a level of only 4-5 units per 1,000 inhabitants during 1984-1995. After 1995, the level in the Tripoli Region has been 5-6 housing units per 1,000 inhabitants (p.40).

Third, in the 2000s, the housing policy totally changed and the government no longer participated as the main provider of housing. Instead, housing was provided by the individual households, and to some extent, the private sector with little assistance from public institutions and housing committees. The role of the government was confined to building a limited amount of housing estates within planned areas; those programs are still suspended due to events that have taken place in Libya as a result of its post-2011 power struggle. The number of units that were proposed and recommended by the second generation scheme were to cover the period 1980-2000, but the government did not implement nor even reach half of the number that had been proposed (Amer, 2007; Urban Planning Agency, 2007).

### **Urban Systems in Libya**

The urban system represents the hierarchy of urban settlements within political territory boundaries. Studying the urban system provides a significant framework with which to assess and formulate strategies for all levels of spatial development. However, failure to accomplish those strategies might reflect negatively, which in turn results in imbalance of the urban system and



domination of urban centers to the detriment of small urban centers. This situation encourages and contributes to the occurrence of the rural-urban and urban-urban migration. These movements impacted the urban dynamic by causing unlawful buildings and emergence of unwanted phenomenon, such as squatter settlements; the best example of this situation is the city of Tripoli. The paragraphs below trace how the urban system in Libya evolved and was assessed. This tracking provides an indicator to the reasons for incidence and prevalence of squatter settlements in Libyan cities, particularly Tripoli.

Potter and Lloyd-Evans (1998) defined the urban system as group of urban settlements that form the fabric of a certain area located within a certain region or the entire nation. The urban system can be classified into three main categories. The first level is the micro level that denotes the elementary units, such as institutions, people, and firms that all live together and thus form a city. The second level is the meso level that encompasses issues related to the city itself that correspond to the consistent geographical entity of the city. The third is the macro level, which is a group of cities and towns that interact within a unified national political territory or cooperate within the world's economic network (Bretagnolle, Pumain, & Vacchiani-Marcuzzo, 2009).

In the global context, urban systems were divided according to their period of appearance and the type of exogenous influences, such as colonization. As shown in Table 5, the urban systems were divided into three styles that have evolved and thus are recognized based on their hierarchical and spatial organization. The first style is represented by Bretagnolle, Pumain, & Vacchiani-Marcuzzo (2009) as "long-standing and continuous settlement processes, [where] cities emerged more or less simultaneously all over the territory, and the city systems are characterized at once by the long-standing nature of their urbanization, and by the regularity of their development over time." (pp. 6-9) On the other hand, in countries with long-standing processes, the urban systems'

(cities) distribution remains without significant changes since their establishment over geographical space. For instance, urban systems in Europe persisted even with the appearance of the industrial revolution in the nineteenth century (Bretagnolle et al., 2009; Lane, Pumain, van der Leeuw, & West, 2009).

Table 4.

Urban Systems in the Global Context

Urban systems style	Typical world region	Selected examples
Long-standing urbanization, slow and regular evolution	National urban system in Europe	Europe urban system
Long-standing urbanization, major exogenous impact (colonialism)	Asia Black Africa	India
New countries, waves of urban creations	U.S.A Australia South Africa	U.S.A, South Africa

Source: Bretagnolle et al., 2009

A second urban system is used by countries with long-standing urbanization, but these are countries that have experienced disruption, such as some countries in Africa and Asia. These countries did not face substantial changes in their urban systems despite their long period of colonization because of the urbanization antiquity. The third category of urban systems is represents what are called “New World”<sup>4</sup> countries. In these countries, cities and towns emerged and expanded through successive waves of emigrants. The United States is a good example of this type of urban system as the occupation of its spaces occurred as a result of waves of coastline residents moving towards the western areas of the country to establish new urban settlements (Bretagnolle et al., 2009).

<sup>4</sup> The new world in this formulation is comprised of the Americas.

Before studying the urban system in Libya, it is important to know the main component of these systems. The city is the core of any urban systems, and a city is defined as follows by many scholars and researchers, such as Bretagnolle, Pumain, & Vacchiani-Marcuzzo (2009): “Cities are a major form of the material, social and symbolic organization of societies.” Molotch (1976, 2011, p. 309) defined the city as “the areal expression of the interests of some land-based elite” (p.1). Other scholars, such as Park et al., (1984) stressed that “the city is not an artifact or a residual arrangement. On the contrary, the city embodies the real nature of human nature.” (p.1) Park et al., (1984) also said that the city is not only “a congeries of individual men and of social conveniences-streets, buildings, electric lights, tramways, and telephones, etc.; something more, also, than a mere constellation of institutions and administrative devices-courts, hospitals, schools, police, and civil functionaries of various sorts” (p.1). These ideas indicate that the city or the urban area can be considered as the core of the urban system.

In the Libyan context, the urban system reflects the second style of the world urban system, where the considerable impacts of colonization is seen in terms of the spatial distribution. The Libyan urban system is dominated by a high degree of primacy and extreme spatial disparities among the four regions of the country in terms of the place and size of urban settlements along with population growth. Since Libya’s independence in 1951, the distributions of all urban settlements have been characterized by a high degree of primate-city dominance. Therefore, this primacy reflects the ratios of the population of the biggest city to the other largest settlements. This gap leads to the appearance of what are known as primate cities or urban poles, such as Tripoli and Benghazi. The dominance of these cities leads to certain urban effects, such as urban sprawl that in turn increases urban-rural inequality (Kezeiri, 1984; Sinha, 1990). In his research on *Urban Transformation and Social Change in a Libyan City*, Elbandak (2008) noted that the imbalance in

the Libyan urban systems is as a result of manifestation of urbanization in addition to the absence of the decentralization policies to assist regional and national development.

During the last few decades, the level of urbanization in the Libyan state faced dramatic changes since the country gained its independence and had improvements in overall life aspects and wealth as a result of the oil discovery. It is obvious that the occurrence of the imbalance in the urban system is due to the continued increases in population growth and movements of people from one place to another whether for work or in pursuit of a better environment as a response to economic and political conditions and climate changes. The real changes in the Libyan urban system began in the 1950s as a result of the above factors. However, my research emphasizes those concurrent with the time period of the Libyan censuses and periods designated as national and regional physical planning generations that began in the 1980s. The reason is that these plans have led to significant new settlements whose emerging appearances formed the fabric of a new urban system. Most of these settlements were new and were recommended in plans to resettle nomadic tribes. In addition, besides the creation of new settlements, the plans have developed hundreds of existing urban settlements to answer the steady population growth (Urban Planning Agency, 2006; WADECO, 2000).

The classification of urban systems varies among countries or even among regions. In his book *Urban World /Global Cities*, Clark (2003) indicates that most countries use population numbers as an indicator to decide on the minimum size of their urban systems. However, other countries might use combinations of diagnostic criteria, such as population size and employment in non-agriculture sectors as has been done in Botswana, Zambia, and Israel. In addition, Canada and France employ the size of population along with density as a criterion to determine the minimum population of what is considered an urban system for their country. The author also

shows that the minimum population of urban areas varies from country to country. For instance, the minimum population in Denmark is about 2,000, while in Syria and Jordan is 20,000.

In the case of Libya, the urban planning policies determined that a minimum of 5,000 inhabitants was necessary to be considered an urban area and thus defined as a settlement (General Information Agency, 2012). The real beginning of formal urban planning dates back to the colonial period when the colonial governments established communities around old Libyan settlements, particularly in the coastal area. However, most of these settlements were destroyed during World War II. After the cessation of World War II, no significant changes in the Libyan urban system occurred. Since Libya's independence, though, its urban systems have changed dramatically based on population growth and the strength of the urbanization (Kezeiri, 1984; Salhin, 2011).

The evolution of the Libyan urban system can be traced to the natural and human factors; based on the census of 1954, there were seven urban areas within the range of small cities that had a population ranging from 5,000-20,000 inhabitants. These cities constituted a total combined population of 70,122 inhabitants. This population accounted for 26% of the total Libyan population at that time. Only one urban area fell within the range of 50,000 to 100,000, which was Benghazi, and only one urban area had more than 100,000 inhabitants, which was Tripoli (with 129,728 inhabitants). It represented about 48% of the total Libyan urban population (Breabish, 2006).

The Libyan state gained many benefits since the discovery of oil in 1951, as this discovery became the main source of the state economy. As a result of that, the number and population of urban areas faced dramatic changes. Based on the 1964 census, the number of urban centers with over 5,000 inhabitants increased to seventeen cities with a total urban population of 620,700 people. Fourteen cities had populations between 5,000 to 20,000 inhabitants. During this period, there was one city, Derna that jumped into the medium range of 20,000 to 50,000. The two main

cities, Tripoli and Benghazi, were the only cities that fell within the range of 100,000 and up. The populations of the two cities were at 296,740 and 139,800, respectively. Their population represented 70.3% of the total population of the Libyan state (Salhin, 2011).

During the 1970s, the Libyan state witnessed an improvement in its overall quality of life as a result of the oil boom. This changed the country from an underdeveloped and poor state to among the states that have a significant economic impact on the African continent. It was a significant economic improvement that was marked by an increase in the number of people in all regions of the country as a result of natural increases of population as well as international migration. However, the result of uneven development in the country led to even greater urban primacy. As a result of the absence of sustainable development throughout the whole country, there was excessive growth in Tripoli and Benghazi. Their primacy was intensified by the natural growth of the population in addition to rural-urban migration. The urban system in the 1970s faced a high degree of spatial disparities between the cities, as Tripoli and Benghazi remained in the category of 100,000 and over to account for 58.9% of the total urban areas. The number of cities whose population was within the range of 5,000 and more increased from 17 in 1964 to 36 in 1973. Eight cities were classified in the range of 20,000 to 50,000, while other five cities were in the range of 5,000 to 20,000 inhabitants (Kezeiri, 1984; Salhin, 2011).

Based on the 1984 census, the urban system again faced significant changes in terms of the number of new urban settlements and the alteration of cities' rank. The number of cities grew from 36 in 1973 to 61 in 1984 as a result of the increase in overall population to a total of 1,366,774 inhabitants with a growth rate of 6.7%. In addition, this growth came about because of the adoption of the comprehensive regional planning that was intended to develop small towns in rural areas and thus control rural-urban migration. As a result of that plan, 25 new cities were added to the

Libyan urban system. Within this context, 39 cities now were within a population range of 5,000 to 20,000, while within the population range of 20,000 to 50,000, the number of cities rose to 13 compared to 9 in 1973 (Breabish, 2006; Kezeiri, 1982).

The 1984 census witnessed the emergence of medium-sized cities, according to the classification of the Libyan urban system for those cities within the range of 50,000-100,000. The population census also showed that two cities, Benghazi and Misratah, were classified as large cities within the range of 100,000 to 500,000 inhabitants with a total population of 449,849 inhabitants and 131,030 inhabitants respectively. Tripoli was the only city categorized as a major city within the range within the range of 500,000 to 1,000,000 inhabitants with a total population of 968,227 people (Salhin, 2011).

The urban system of Libya in 1995 noticed dramatic changes along with the natural increase of the Libyan population. The 1995 population census showed that the urban population grew during 1984 to 1995 to reach 1,388,646 inhabitants, with an annual growth rate of 3.7%. Thus, the total number of the Libyan urban population was 4,114,240 inhabitants, with an urbanization rate counted at 85%. Based on that, the number of areas classified as urban areas increased to 83 cities compared to the last census; this was an increase of 22 cities. When compared to the previous census, the Libyan urban areas decreased in their population growth rate (Salhin, 2011).

According to the Libyan urban system classification, there were fifty urban centers within the category of 5,000 to 20,000 inhabitants that comprised 11.7% of the total urban inhabitants. The number of urban areas classified within the range of small cities at 20,000 to 50,000 counted fifteen cities with a total population of 459,010 inhabitants. This group of cities encompassed 11.2% of the total Libyan urban areas. The census showed that there were twelve urban areas

classified as medium-sized cities at 50,000 to 100,000. The number of population within this group reached 836,060 inhabitants, which represented 20.3% of the total Libyan urban population (Kezeiri, 1984; Salhin, 2011).

The census listed four urban centers categorized as major cities within the range of 100,000 to 500,000 with a total population of 586,175 inhabitants. This population represented 14.2% of the total Libyan urban population. In this census, there was only one city, Benghazi, with a population of 589,850 inhabitants that was placed within the range of major cities of 500,000 to 1,000,000. This city represented 14.3% of the total state urban population. Tripoli moved beyond a major city categorization to the category of cities with a million or more total population of 1,157,557 inhabitants (Kezeiri, 1984; Salhin, 2011).

The final results of the 2006 census indicated that the number of cities in different categories continued to rise to reach ninety-nine cities with a total Libyan population of 5,128,317 inhabitants. This was 94.3% of the total Libyan population, at 5,439,900 inhabitants. This percentage shows to what extent the urbanization trends in Libya came about as a result of the rise of urban settlements. The number of small settlements with population range from 5,000 to 20,000 continued to rise to reach 59 settlements that corresponded to 12.1% of the total urban population (Breabish, 2006; Kezeiri, 1982).

The census also showed that the small cities at 20,000 to 50,000 increased to nineteen cities within this category. They comprised 11% of the total urban population. There was no change in Libyan medium-sized cities of 50,000 to 100,000 in comparison to the number of cities in 1995 in this class range, which was 16.3% of the total urban population (Breabish, 2006; Kezeiri, 1982).

Within the 2006 census, eight urban areas were classified as large cities, and their total population reached 1,153,525 inhabitants; this formed 22.5% of the total urban population of the



country. Additionally, there was no change in the context of the class of major cities and the class of million cities as Benghazi with a total population of 629,597 was still the only city in the class of 500,000 to 1,000,000 and Tripoli was still the only city in the class of a million cities and more. These two cities represented 12.3% and 25.8% respectively of the total urban population (Salhin, 2011).

From the above descriptive of the evolution of urban system in Libya, it can be concluded that there has been an increase in the number of small and medium towns through many decades. This kind of urban system plays a significant role in terms of functioning as a transition between the primate cities and villages. The previous information had shown that small and medium towns work as centers that provide services more closely to the vicinity of rural areas. The expansion of this type of cities creates a balance in the geographical distribution of cities, which in turn encourages migration from large urban centers to smaller cities, thereby easing the pressure on big cities and creating the possibility of achieving urban balance.

Despite the development in the proportion of small and medium cities in the country, however, the two big cities, Tripoli and Benghazi, remain at the top of the urban system as primate cities in terms of the size of their population, which creates an imbalance in the urban system in Libya. There is considerable interest by the state regarding Tripoli and Benghazi in terms of having the concentration of most services and administrative centers. This information provides a preliminary indicator to the rural-urban migration and thus the emergence of informal settlements.

### **Urban Planning Policies**

Urban planning studies address the planning of human settlements at different scales, whether the residents settle in rural agricultural areas; small communities; or in villages, towns, and major cities. Urban planning does not focus only on physical aspects in planning, but it also

looks at the economic planning in the community. Urban planning might translate planning and economic studies into indicators, locations, projects, and spaces. It can be also determine the requirements of housing and social facilities, religious facilities, roads, technical services, transportation and communication (Ammora, 1998).

Globally, modern urban planning appeared during 1920s and 1930s as a response to the consequences of the industrial revolution. Madbouly (2009) stated that the idea of modern urban planning was carried out by the French architect Le Corbusier, who

Established in the 1920s and 1930s the ideal of the ‘modernist’ city, as the ideal city was neat, ordered and highly controlled. Slums, narrow streets and mixed use areas should be demolished and replaced with efficient transportation corridors, residences in the form of tower blocks with open space ‘flowing’ between them, and land uses separated into mono-functional zones. But while the spatial forms promoted in the planning visions tended to vary, the nature of the plans which produced them had more in common. (p.23).

This transformation was adopted and evolved in both developed and developing countries as we see today as a response to the acceleration of urbanization and thus massive growth of cities (Madbouly, 2009).

While growing cities had positive impacts for some Libyans, urbanization has also led to many problems, such as the spread of informal settlements. These informal settlements emerged at the expense of productive agricultural land and other forms of valuable and greener lands, which are a crucial commodity in a desert country. The fragmentation of land use and land cover is also noticed in periphery areas of the big cities. As a consequence of this situation and its impact, planning institutions in Libya started as early as the 1960s to think about how to regulate and control the spread of urban areas.

## **The State Role in Organizing the Urban System**

The practice of modern professional urban planning in Libya is relatively young compared to neighboring countries in northern Africa, such as Egypt. During the Fascist period of Italian colonialism (1911- 1951), the colonizers built planned settlements for some 150,000 Italian settlers as mentioned previously in this chapter. The limited planning schemes prepared during the colonial era did not absorb the increasing urbanization movement. More significantly, little urban planning for Libyans took place until its independence, and most analysts would say the contemporary era of professional and comprehensive planning began in the late 1960s, around when the Libyan Revolution of 1969 took place that brought Gadhafi to power (Azlitni, 2005; UN-HABITAT, 2010).

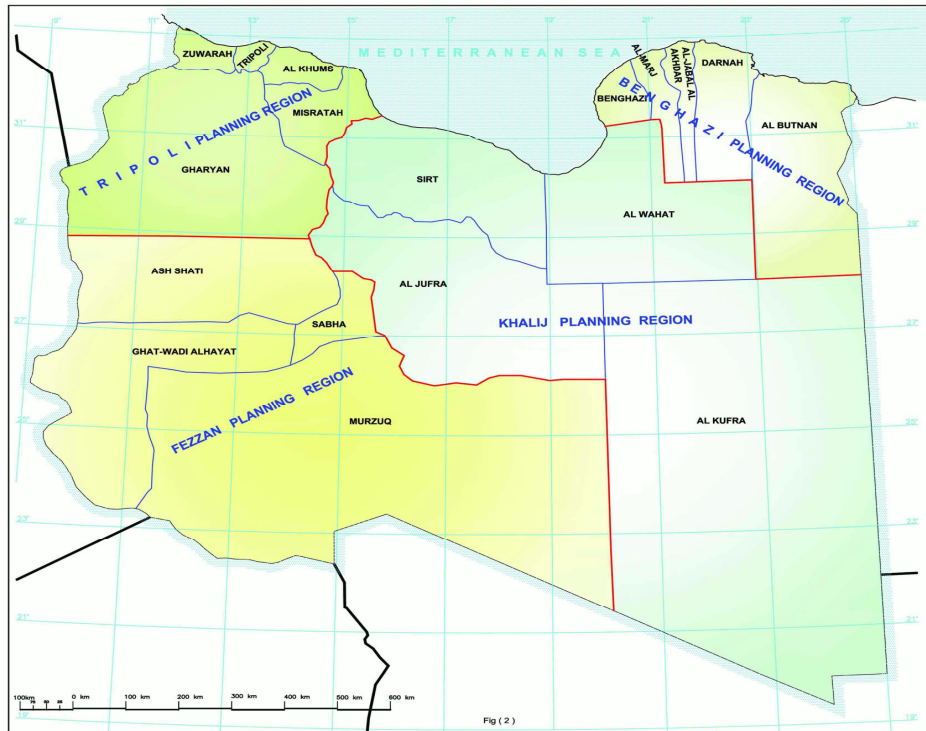
As a result of the noticeable increase of population after a decade from the country gained its independence and extracting a significant amount of crude oil, the urban systems remained unbalanced until the beginning of 1980s due to the absence of comprehensive physical planning. There were three main planning generation schemes throughout the 1960, 1980, and 2000 that were conducted in order to control urban growth and create a balance of urban systems in the country. Each planning generation was intended to cover 20 to 25 years (WADECO, 2000).

**Generation plans timeline.** The first generation plan was anticipated to cover the period from 1968 to 1988. In this project, master plans, layout plans, and area action plans (detailed plans) were prepared for most of the cities and towns in the country. However, Libya had the highest rate of natural increase of population among northern African countries during these years as a result of the improvement of health conditions. In addition, dramatic international and rural-urban migration also contributed to increasing the Libyan population. The three elements that made up this difficult situation caused the first problem and subsequent termination to the total plan (Azlitni,

2005). As a result of the lack of sustainability of this plan, the situation called for a rethinking of previous urban plans and suggestions for new strategic spatial planning instead of relying on an earlier disillusionment of master planning. Madbouly (2009) stated that

the strategic spatial planning system contains a 'forward', long range, spatial plan which consist of frameworks and principles, and broad and conceptual spatial ideas, rather than detailed spatial design(although it may set the framework for detailed, local plans and projects). The master plan does not address every part of city-being strategic means focusing on only those aspects or areas that are important to overall plan objectives (p.26).

This strategy aimed to prepare a comprehensive study for the entire nation in addition to the regional and master plan study in order to control the existing status and future development until the year 2000 (Madbouly, 2009).The second generation plans began in 1980, and was prepared by the General Secretariat of Utilities based on specific political thoughts towards the socialism system. This trend applied during the formulation of the master plan and thus the distribution of the services made based on that thought. As shown in the figure 11, this planning phase, divided the country into four planning regions: Tripoli, Sebha, Al-khalij and Benghazi. In addition, each region was sub divided into sub regions. For instance, the Tripoli region was sub divided into five sub regions that included Tripoli, Zwarah, Al-Khums, Gharyan, and Misratah. Tripoli, in addition to its function as the capital of the country, provided services for the urban settlements and rural areas located within 45 minutes of the central business district (CBD). The total population of Tripoli at that time was 994,000 and the total area was 1,253 square kilometers, with an average density of population of 739 people per square kilometer (Buru, Ghanem, McLachlan, & Studies, 1985).



*Figure 11. Libyan Urban Planning Divisions*  
Source: 3<sup>rd</sup> Generation Planning, National Physical Plan.2006

This planning stage started with the preparation of a national physical plan as a framework with regional and local planning levels. The creation of this comprehensive plan assessed the weakness of the first plan and considered ways to overcome the obstacles and problems that had occurred. The national plan resulted in policies that regulated and guided the planning process, while the local level sought to represent people's needs. The national spatial policy represented future visions for a 20 to 25 year period. The second stage prepared four regional development plans, 18 sub-regional plans, and 244 urban plans, which consisted of 13 sub-regional plans, and 37 urban master plans as well as 176 layouts plans and area action plans (National Spatial Policy 2006-2025). However, the second generation planning did not appear to absorb the increase of population and fulfill its goals, which I argue in Chapter 4. In its scope, scale, and ambition, the second generation planning was in keeping with planning thought in Africa at that time,

particularly those applied socialist system, such as Angola and Ethiopia that were dedicated to nationally coordinated master planning.

The third planning phase was a result of the completion of the second planning phase, which was terminated by its target year of 2000. This phase also came into existence as a result of dramatic changes in the political system that opened the country to the world and thus abandoned socialism systems and its ideology. As a result of the urgent needs of the people and public institutions to establish their activities, special attention was given to formulating new development plans in order to control, complement, and mitigate the pressure on the existing plans. The year 2000 was considered the inauguration date of this phase. However, the actual work began five years later in 2005. The main scope of the actual planning project lay in evaluating and updating the second generation plans as a result of the increase in population growth. In addition, the planners sought to prepare new urban plans for cities and urban settlements and, finally to prepare and implement action area plans for those cities and settlements that already had master plans (Azlitni, 2005; Urban Planning Agency, 2006).

The third generation planning project from 2000-2025 was considered practical for many reasons. The first reason was the increase of population growth, particularly in Tripoli and Benghazi. The second reason was that the plan anticipated the appearance of new issues that might have an effect on spatial development, such as foreign investments after the possible end of sanctions, the completion of the new water sources represented in the Man-made River Project, or the proposed railway system. The third reason for the third generation planning was considered practical was that it tried to adopt new trends to diversify sources of national income rather than relying on one source represented by oil and its products that might be depleted at any time. Finally, in general the project aimed to regain control of urban growth and the planning process in

all parts of the country in addition to providing concrete foundations for the future generations of the country and its development by upgrading the education and vocational processes (Jusoh, 2011).

In all of these ways, at least on paper or in principle, the third generation planning in Libya appears to have been in line with trends of its time in Africa, such as moving away from strict blueprint master planning and towards action area planning with more practical and infrastructural dimensions. At the same time, it also appears to be in line with planning across the continent in its inability to solve many of the country's pressing urban problems, most notably the growth of squatter settlement. This in turn provides an answer to my research questions, which is to what extent does the third planning project expect to contribute to overcoming the squatter problems. I argued that the third generation planning projects might overcome the urban sprawl through space and time.

### **Planning Levels and Planning Standards**

During 1980s and 1990s, the adoption of land use zoning or what is known as comprehensive physical planning in most European countries and North American countries came about as a result of the failure of the earlier master plan approaches. This step developed as a result of the failure of the master plan to absorb the dynamic movements of population growth, economic development, and real estate developments. As a result of those movements, the master plan becomes ineffective and outdated. Madbouly (2009) argues that the new approach is considered applicable because it

Contains a 'forward', long range, spatial plan which consists of frameworks and principles, and a broad and conceptual spatial ideas, rather than detailed spatial design.... It could just

easily deliver gated communities, suburbia or new urbanism, depending on the local groups involved in the implementation process (pp. 24-26).

This approach is essential because of its capability to integrate the policies and the function use of land at all levels of planning (Madbouly, 2009).

After noting the failure of a master plan approach in other countries, Libya adopted a comprehensive planning approach as a response to its economic and demographic changes in the 1980s. This idea was applied during the preparation of the planning strategy of the second generation planning projects of 1980-2000 and onwards. In addition, the new planning strategy was characterized by preparing a study at different levels beginning with a national strategy and through the regional, sub-regional, and local levels based on the planning standards. Both planning levels and planning standards are regulated by a broad spectrum of legislation, particularly the Law No.3 that considered urban planning issues. In addition, the law delineates the planning process from the formulation to the implementation stage at all planning levels. In Libya, the planning authorities assigned four planning levels: national, regional, sub regional, and master plan level (Bureau, 2009).

The future new urban areas and technical and social services are based on the demands of existing and future populations. The future predictions of population and services are calculated based on the planning standards. These standards determine the existing and future demand of services for residential areas, or public services, such as health, religions, open spaces, road networks, and social and technical infrastructure. Planning standards and criteria work as guidelines at regional, sub regional and master plan level (Agency(UPA), 2007).

**Planning standards.** Historically, since Libya's establishment as a state, it has received support and assistance from foreign countries and agencies, such as United Nations habitat due to



its shortage of expertise. The country aimed to promote all sectors, especially in the areas of urban planning and housing sectors. The country gives priority to enhancing the planning sector as a part of its comprehensive plan to improve all life aspects for the Libyan people who have suffered from prolonged neglect due to colonialism. To create useful state development plans, it was necessary to prepare planning schemes to accommodate the requirements of housing and complementary service facilities. As a result of the size of those plans, it necessitated the intervention of various foreign experts and global institutions in the area of urban planning for the preparation of all planning stages. Each of the participants came from different planning schools, which in turn impacted the planning process in different ways. They applied their thoughts and ideas on design and implementation processes based on their local environments without taking into consideration the local environment, traditions and customs of Libyan society (Azlitni, 2005; WADECO, 2000).

In response to this situation, the Libyan planning authorities established new standards for Libya that took into account local customs traditions and were in line with the spatial and climatic conditions of Libya. The planning authority has modified these standards several times based on the nature of demographic and economic changes of the country. The old version of these standards was issued in the beginning of the 1960s primarily in order to overcome the problems of informal settlements around main cities, Tripoli and Benghazi. Abu-Harris et al. (2005: 666) confirmed that “Physical development in Libya is subject to an Urban and Rural Planning Law No.5 (1969), which obliges every municipality to prepare a detailed plan for future urban development in towns and settlements within their boundaries.” Each municipality within the country prepared planning schemes in order to provide quick accommodation to evacuate slums residents with minimum planning standards. As a result of the failure of the planning schemes and their planning standards to absorb the population growth and to support technological development in all areas, notably

transportation modes, the planning authority started to update those standards in order to attune itself to the new developments (Abu-Harris & Ruddock, 2005; Agency, 1983).

From that perspective, the importance for new planning standards became an urgent issue, particularly during the preparation for the second generation plan of 1980-2000. In the beginning of the 1980s, new planning standards were approved. This new planning law was made general so that it could cover the entire country. The following are sample of planning standards applied during the formulation and implementation of planning schemes. As shown in Table 6, the residential areas were classified into seven categories where each category represents housing types as well as land use densities.

Table 5.

*Urban Planning Standards (Housing)*

Types of Housing		
Single family housing		
	Housing density	Population density
	Number of housing units/ hectare	Number of population/ hectare
R1	10-14	50-70
R2	15-20	75-100
R3	21-26	105-135
R4	27-40	135-200
Multi-Family Housing (High rise buildings)		
R5	40-80	160-280
R6	70-100	280-400
R7	>100	>400

Source: Urban Planning Agency-Urban Planning Standards, 1983

**Planning levels.** Since the nineteenth century, the world has witnessed dramatic changes in all aspects of life, especially with regard to mechanization and technology that were adapted to serve humanity. As a result of this transformation, improvements in human health led to the eradication of many diseases. Those improvements led to substantial increases in the human

population worldwide. One of the urgent issues that has resulted from that increased longevity is represented in the spatial distribution of population and the emergence of new settlements as well as urban sprawl in existing cities. The appearance of motor vehicles, such as cars also changed the morphology of urban settlements. As a result of those movements, the situation necessitated new urban planning policies, strategies, and criteria in order to enhance the shape and function of cities and control their growth. Most countries have adopted various strategies and plans in order to maintain sustainability.

Libya is one of the countries that have faced dramatic changes, particularly in the increase of its demography as a result of socio-economic changes since the discovery of significant quantities of crude oil. As a response to that, Libyan authorities adopted long-term comprehensive planning strategies and policies. These strategies were prepared for different planning levels as part of the overall planning processes. The planning authorities gave high priority to national and regional levels in order to build a framework to be utilized as a guideline to prepare local plans (master plans as well as area action plans) for urban settlements throughout the nation. The planning was divided into four levels as follow.

***National physical plan.*** This plan is considered a national vision and a perspective planning guide for the long term. This plan is a guideline for planning settlements and their infrastructure and services. Therefore, it provides essential information for future decision makers on the national level. It is also a framework for future planning in regional, sub regional and local level. The plan is responsible for protecting the environment, such as agriculture lands and the ecosystem of the country (Urban Planning Agency, 2006).

***Regional plan.*** Regional planning aims to project and detail national development policies and application of laws and regulations and recommendations resulting from the national planning

schemes as they apply to the region. Therefore, the plan also deals with regional vital aspects, such as population distribution and the development of technical and social infrastructure on the regional level. The main task of the regional plan is to apply national policies to the regional development. It also works as a coordinative and decision framework for implementing national and regional plans. It provides recommendations related to sub-regional aspects (Urban Planning Agency, 2006).

***Sub-regional plan.*** The sub regional plan's function is related to the principal strategic development policies that deal with implementation of the recommended national project plans to be implemented by sub-regional divisions. In the sub-regional plan, problems of urban settlements become more visible and involve intensive strategies and policies in order to manage the development of urban settlements located within the boundaries of the sub region. Furthermore, the sub-regional plans' main function is to work as a guideline and a framework for future land use and implementation of the comprehensive master plans as well as layout plans (Agency (UPA), 2007).

***Local plan.*** The local plans, consisting of a master plan and an area action plan (details plan) are the final stage in the planning formulation process. This stage mainly seeks to order and regulate the utilization of land in an ideal and efficient way. This plan covers a wide range of policies, strategies, and plans that interact to formulate and manage land in an urban form controlled by planning schemes. This aims to improve the environment by shaping the design of the urban area and thus harmonizing urban development. It also identifies social needs and ways to improve services and facilities in order to maintain sustainable development (Urban Planning Agency, 2006).

## **Chapter 5: Theoretical Context and Data Analysis**

### **Theories of Urbanization in Relation to Libya**

Based on the literature review, the particular pattern of urbanization is considered a root cause of the incidence and prevalence of informal settlements (squatter settlements) on the peri-urban fringes of major cities in developing countries, including Libya. Urbanization and its impact widely affect developing countries and the state of Libya in terms of demographic, socio-economic and environmental aspects. The spatial distributions of population and the growth of urban

settlements are aspects most affected by urbanization. In order to gain a meaningful understanding of urban settlement structure in general and the squatter phenomenon in particular, it is important to give attention to the phenomenon of urbanization and its consequences. The literature review in Chapter 2 traced and critiqued aspects of the urbanization phenomenon in terms of trends and dimensions, based on many scholars' thoughts in this field. These studies provided information about urbanization and its consequences around the world, including developing countries and in particular Libya and its neighboring countries.

A critical comparison has been made between neighboring countries and Libya. It can be noted that Libya is a unique country in terms of the appearance and evolution of the phenomenon. It is also important to understand that Libya is still being exposed to new forms of urban growth or urbanization that are different today from those in past eras. The most effective form of urbanization in Libya is suburbanization, which is the emergence of new residential areas in the outskirts of dominant cities, such as Tripoli. Anthony (2005) clarifies that "Urbanization that produces new residential communities on the outskirts of major cities has become known as suburbanization"(p.856); he also stated that peoples moving to the periphery of the cities hope they can find better environment that satisfy their lives, include their own yards, good neighbors and quiet neighborhoods (Anthony, 2005). This form of settlement emerged after the cessation of World War II in many developed countries, but it is often considered to follow different patterns now in developing countries like Libya (Hamel & Keil, 2015).

In the United States, for instance, as stated by Alba et al. (1999), suburban settlements appeared as a result of the hallmark of contemporary migration that recently occurred (Alba et al., 1999). Champion (2001) also defined this, by saying "suburbanization is...a new phenomenon, with its origins traceable in the building of large homes by more successful entrepreneurs on the

outskirts of the burgeoning centers of industry and commerce.”(p.148) In other words, the process of this phenomenon is subjected to the housing needs and desires of people to live in the suburban areas. This has also been linked to the invention and widespread adoption of the automobile (Borchert, 1967).

Hamel and Keil (2015) stated that suburbanization is a process of the decentralization of urban space that occurs in the periphery of cities. These phenomena became a worldwide feature in the urban fabric. Hamel and Keil (2015) defined suburbanization as

The combination of non-central population and economic growth with urban spatial expansion. Although suburbanization is not uniformly applicable to all parts of the world, this generic term is carefully deployed here to incorporate all manner of peripheral growth: from the wealthy gated communities of Southern California, to the high rise dominated old suburbs of Europe and Canada, the faux Westernized outskirts of Indian and Chinese cities, and the slums and squatter settlements in Africa and Latin America (p.22).

Ekers et al. (2012) clarify that there are three styles of suburbanization: self-built, state-led, and private-led suburbanization which in turn reflects the importance of finding a way to manage and govern the phenomenon (Ekers, Hamel, & Keil, 2012). They also contend that in order to manage this phenomenon, suburbanization requires a certain level of governance in order to create sustainable development. They said that this governance requires interdisciplinary sectors such as state, market, and civil societies. The management and governance of this phenomenon is still being applied in most developed countries to sustain urban growth. However, in developing countries such as Libya, the suburbanization patterns and processes that are identified in developed countries are only becoming applicable if the same conditions and possibilities that are available in developed countries, such as political, social, and economic stability, become available to create

sustainable planning. In addition, the state must play a key active role in the governance to manage the suburbanization process by financing home ownership in addition to the development of infrastructure in the peripheral areas of the cities (Hamel & Keil, 2015).

Based on the previous brief discussion, major urbanization theories that study the world's urban settlements have been discussed in depth. In addition, a critical discussion on those theories has examined which theories have influenced the structure and form of urban system in Libya; that discussion considered the efficacy of theories in regards to developing countries and Libyan urban evolution in particular.

African countries, as in many developing sections of the world, have faced a remarkable increase in their demographic trends. This dilemma has occurred in Libya as well in the last four decades as a result of economic and political alterations. These changes occurred most frequently during the discovery of oil during the 1950s, followed by the military coup led by Gadhafi in 1969. The central question regarding these transformations in all aspects of life and urban agglomeration is how the Libyan urban system was affected by these alterations and how urbanization occurred. It is a concern of this dissertation to determine whether these urban theories formulated the development of Libyan urban centers or if there are other trends that impacted this development. The answers to these general questions as well as the research questions were obtained by review of those theories alongside exploring the views of targeted interviewees from citizens and stakeholders in the country with regard to urban planning.

Through the history of city developments, different opinions have been put forth regarding how cities can develop in the future. Three different development theories have become noteworthy in studies that seek to determine the structure and the rate of urban growth, particularly in developed countries. As stated by Hardoy et al. (2001), the excessive growth of urban areas



might not match economic and social aspects of certain countries. Consequently, unrestrained growth of urban areas greatly exceeds the available resources of some countries, which is more crucial for those countries that have limited natural resources. The following urban development approaches reflect the most noteworthy theories regarding aspects of growth in urban areas.

**Modernization theory.** The twentieth century witnessed the emergence of many scientific developments and theories in different areas, especially those concerned with demographic and economic activities. This period witnessed significant changes in the evolution of cities and the movement of people from rural areas towards urban centers, as a result of economic changes caused by industrial activity. These activities have provided more job opportunities and better wages. Freund (2007), in his book, *The African Cities: A History*, affirmed that industrialization is not the only factor that pulled rural people towards the urban centers for the purpose of employment. He also indicated that “the urban population of Africa expanded by the beginning of the 1970s to levels that the local business worlds could not absorb and commentators began to refer to “over urbanization” (Freund, 2007, p.148). Over-urbanization means massive displacements of rural dwellers along with the natural growth of existing population that have occurred at the same time and migrate towards the cities, at a rate that becomes unmanageable for the cities, basically over their capacity for absorbing new population. Based on these trends, several theories have emerged in order to formulate and explain the rapid urban expansion (Freund, 2007). Modernization theory was developed in conjunction with rapid urban growth and advanced technology that occurred in the middle of the twentieth century as a term to facilitate the evolution of developing countries’ change in way of life from traditional to modern life. This theory adopted the idea of utilizing modern methods and advanced technology in terms of production in order to strengthen their economies and thus their approach towards development. The theory confirmed

that advanced technology and industrialization that create the economic growth of some countries are considered engines of growth (Tettey, 2005).

The main concept of modernization theory is that the transformation started in conjunction with the industrial revolution that is directly related to social changes. Rostow (1990) described these changes as the stages of economic growth. He identified that these changes can occur unevenly within any society as a feature of economic and social development. He categorized this evolution in five stages, as follows. The first stage is the traditional society that is dominated by subsistence agricultural activities. These activities rely on traditional cultivation of the land and crops. The second stage is a precondition for take-off growth; during this stage improvements occur in investment and a new era of dynamic economic development begins as a result of an industrial revolution (Rostow, 1990).

In addition, improvements also occur in the agriculture sector in conjunction with the industrial evolution; likewise, a strong relationship is said to build between the holders of political power and the holders of economic wealth. The third stage is the take-off stage, where that relationship between political and economic leaders fosters the most important characteristic of this stage, self-sustained dynamic economic growth. The fourth stage is the drive to maturity. Domestic saving and investments in this stage are intensified by 40 to 60% mainly in the manufacturing sector, such as chemical, electrical, and mechanical engineering. The drive to maturity included, for Rostow, a diversification of the industrial base away from overwhelming reliance on one industry (usually heavy industry, like steel, for example), and an easing up of government direction of industrial growth. Through this progress in technology, a reasonable social and economic transformation occurs. The fifth stage is the age of high mass consumption. Society in this stage has a multiplicity of wealth choices and provides prosperity to most societies

in developed countries particularly those in western and northern spheres of the globe. Finally, it is important to note that all economic stages show that modernity came into view chronologically and influenced development in all aspects of life, particularly urban development (Rostow, 1990).

**Dependency theory.** Dependency theory was formed beginning in the 1950s to prove that economic prosperity of developed countries did not necessarily result in growth of the economies of developing countries, particularly the poorer ones (Ferraro, 2008). The theory relies on the spatial outcome of capitalism in the world. This theory also relies on the argument that the growth and development of western countries was a result of their exploitation of countries and colonies in the global South. Additionally, it emphasizes the historical process to formulate changes in a city's structures, an idea that is in line with making developing countries dependent upon the development core. In general, this theory came into view after the failure of modernization theory to overcome the issue of developing countries underdevelopment (Tettey, 2005). It first arose in Latin America, but its influence spread to the African continent, particularly with the Africa-based publication of Guyanese historian Walter Rodney's *How Europe Underdeveloped Africa* (1970).

However, geographic inequalities among urban centers and rural areas are created in an uneven process. The process producing inequalities reach their strength to the extent that they generate disparities between cities themselves. From the theory perspective, researchers note that these processes affect developing countries in particular as an economic external force. These forces create undesirable rapid urbanization and thus a rural-urban imbalance, a non-balanced hierarchical urban system, an unequal income distribution, and housing segregation (Peng, Chen, & Cheng, 2000).

Some economists argued that such "unbalanced growth" was actually a good thing for a country's development (Hirschman, 1958). But most urban scholars argue that dependency theory

points out the benefits that developed countries get from using developing countries as a source of raw materials for their industries, exacerbating inequality rather than reducing it. As a result of those benefits, foreign countries invest at a large scale in the scope of agriculture production. Weinstein (2010) argued that “dependency theory was viewed as a possible way of explaining the persistent poverty of the poorer countries” (p. 269). As a result of being used as a source of raw materials, huge numbers of peasants and farmers can be displaced from rural areas into urban centers as they seek better life and employment chances (Ferraro, 2008).

Consequently, the result of that movement is represented in large investments in manufacturing, predominantly in big cities that in turn lead farmers to believe there are better wages and more employment opportunities in those cities. Again, there are economists who argue for this process as beneficial to development, including the Caribbean economist Lewis (1954), since the rural upheaval provided industrialization with a labor supply (Lewis, 1954). Indeed, urban areas become an attractive spot to the rural residents to some extent. But in many cases, planned urban areas are not willing to accommodate the huge number of migrants, nor are there sufficient industrial jobs for them, and thus the periphery of the cities is overwhelmed by squatters who must seek alternative means of making a livelihood (Tettey, 2005). Their informal or lower-circuit economic activities become linked into the formal, upper-circuit activities in cities, dependency theorists argue (Santos, 1979).

**Urban bias theory.** Urban bias theory sought to explain and thus understand the process of urban development in both developing and developed countries. However, it is most useful in explaining urban development in developing countries in particular. This approach is concerned with the changing of the development process from an economic perspective to a political perspective. In the same context, urban policies in urban centers provide more attractive at the

expense of the countryside when most of the vital facilities are located in primate cities. Facilities in developing countries are mainly concentrated in urban centers and ignore rural areas where a large proportion of their population lives (Tettey, 2005).

As a result of those policies, people in urban areas benefit from a high standard of living while in rural areas the standard of living is lower, which increases the gap between the urban centers and rural areas. As a consequence, urban areas become pull centers for the rural dwellers, while rural areas become push centers where dwellers intend to move or migrate towards the primate urban centers in order to receive the benefit of the services and the availability of employment opportunities (Tettey, 2005; Willis, 1994).

The discussion illustrates the contradiction between the three approaches regarding the development of the urban areas. In modernization theory, the primary perception is that developing societies move towards modernity and neglect their traditional life, which in turn is reflected in the urban environment. In other words, the developing societies gain more socio-economic development that leads to ignoring the rural areas. Dependency theory, however, considers certain issues that are not explained in modernization theory. It aims to elucidate the warped manner of economic development in developing countries as a result of the external influences that occur politically, economically, and culturally, in particular at the national development policy level.

Generally, dependency theory focuses on the historical process in elucidating changes in the structure of the urban areas in many countries across the globe. The changes are mainly concentrated in the shift from a pre-capitalist era to the adaptation of a capitalist outlook where capitalism is considered a mode of production. In the urban context, dependency theory highlights the importance of external economic forces as the center of a study of urban areas. For urban studies, the significance of dependency theory lies in its related development of the separation of

sectors in the urban economy into those identified as formal (regulated, registered, higher-technology, or higher capital) as opposed to informal (un-regulated, un-registered, low-technology, and high labor) inputs. Informal, lower-circuit economic activity was argued to be dependent upon the controlling formal, upper circuit (Santos, 1979).

Within the framework of Milton Santos's (1979) model, he presented the developing country's economy in two "circuits of capital." The model represented these circuits respectively in the upper circuits of capital and the lower circuits of capital. Each circuit represented one set of activities that developed based on a certain context of sectors. The upper circuits of capital have a tendency to be dominated by capitalists operating either internationally or in the national level. The lower circuit of capital is mainly comprised of labor-intensive small projects or independent businesses. The upper circuit controlled the flow of capital in the shape of inter-urban transactions. In other words, it relies on high technology production. The engine of commerce relies mainly on participants from the rich and middle classes, while the lower circuit is dependent on the intra-urban markets and social networks; its mechanism relies mainly on consumption. It is reliant on the lower class (poor) participants. Finally, it can be concluded that the two models (upper and lower circuits) are correlated to each other in terms of an unequal relationship. The two models are essentially different in terms of their organization and activities, however, they do not work independently as formal and informal sectors. Santos also stated that the two models of economic process or circuits are not responsible only for the economic process, but also for the alteration of spatial organization (Santos, 1979).

Anthony (2013) presented his thoughts regarding the term dualism (cultural and economic) that is manifested in shanty dwellings in most developing countries. Most writers and researchers are not satisfied with the term dualism and prefer to use upper and lower circuits. He

also revealed that the rapid growth that occurred in this century in most African cities is a result of the interaction between the population of the indigenous city and an economic models.

In opposition to this, urban bias theory puts forth the concept of urban development that had relied previously on the economic concept that instead moved towards a political concept for urban development; governments gave more attention to urban areas and totally or partially neglected rural areas, which in turn encouraged migrants to move towards urban centers for a better life (Anthony, 2013).

**Urbanization theories in the context of Libya.** As stated by some scholars in the literature review chapter, urban development in Libya, as in many African countries, has occurred without industrialization. Gollin, Jedwab, & Vollrath (2013) rely on Todaro model where they emphasized in their argument that

Some parts of the world have urbanized without it being fully explained by economic development. This excessive urbanization is attributed to pull and push factors feeding rural exodus...there will be rural-to-urban migration as long as the (expected) urban wage is higher than the rural wage. First, land pressure and man-made or natural disasters may result in a lower rural wage, with rural migrants flocking to the cities (p.7).

The previous theories might be beneficial to explain and facilitates the structure of the Libyan urban system in addition to elucidate how the Libyan urban development evolved in the past. However, practically, the theories considered not applicable for prospective development of Libya. Hence, the development in Libya should not adopt the above mentioned urbanization theories for many reasons; the modernization theory, for instance, adopted modernity and develop the main urban centers which in turn will encourage the growth of the main cities particularly Tripoli while ignoring small and mid-size towns. The overall result is accelerating spatial

inequality and appearances of primate urban centers. In the same context, dependency theory also encouraged the geographic inequalities among urban centers in addition to ignoring rural areas. The urban bias theory relies on changing the development process from an economic perspective to a political perspective. In this approach, the state provides more reasons to join an urban center at the expense of the countryside. From that prospective, the country seemed to be not formed and guided by any of the above theories in explaining the urban development in Libya, because the country has been tied closely in natural resources production, such as agriculture and oil instead of relying on manufacturing industries and economic development.

### **Setting the Scene: Squatter Settlements Overview**

Informal settlements in general and squatter settlements in particular have become one premier issues that are a burden for many developing countries around the world, rich and poor alike. On the other hand, squatter settlements have evolved to the point that they have become a part of the urban fabric of most developing countries, particularly those that suffer from a scarcity of natural resources, have much poverty, and suffer from political instability. It can be said that this phenomenon hinders community development in most countries. The problem of what is known as informal settlements, slums, or squatter neighborhoods is defined as sections of cities or towns that are characterized by shanties and crudely built houses that are normally on the outskirts of cities and are inhabited by the poor or marked by poor living conditions; this is a problem facing a significant number of cities in the world, particularly developing countries (Srinivas, 2005). It is both a social and economic problem that needs to be addressed urgently so that it will not have a negative effect on both the structure of the area or on the lives of its inhabitants.

Referring to the literature review chapter, this phenomenon is a reaction to many political, environmental, economical, and demographical factors. These reasons have led people to move,



migrate, or be displaced. The targeted areas were larger cities, especially the capital cities and primate cities. People who are forced to find refuge in the outskirts of big cities, often built their homes with whatever construction material they can afford, such as wood, cardboard, mud bricks, or some cases concrete. Most of the homes built in this form lack basic utility services. They are unevenly scattered with narrow twisted streets or paths. The streets are also unpaved and not wide enough for the passage of vehicles and other transportation means. These areas also are marked by a lack of health services and security services along with other environmental and related services.

In the Libyan context, squatter settlements appear in most cities, particularly in large cities, such as Tripoli. This phenomenon of squatter settlements has grown as a result of the necessities for accommodation. These needs were and still are pressing for both high and low income people. However, solving the problem cannot be done by a chaotic assault on the area. This phenomenon becomes visible through daily violations and invasions of public and private land, especially arable land, to an unprecedented extent, and principally in the absence of the role of state institutions.

In the past, particularly after independence and the discovery of crude oil in 1951, massive development activities in several sectors occurred, and the most important ones were the industrial complexes, military bases, and commercial areas (all of which fit with urban bias theory), with government over-investment in urban-based industries and institutions. These activities meant that a significant proportion of Libyan workers was moved towards the industrial areas concentrated in main cities, such as Tripoli and Benghazi. These movements created what is known as shanty zones in suburban areas (Omar & Ruddock, 2001).

As a response to this phenomenon, Libyan authorities during the monarchy period (1951-1969) adopted many plans and strategies in order to overcome the problem's humanitarian aspects. Consequently, the authorities sought to buy land from the owners in order to construct new housing

communities to re-accommodate peoples from shanty areas. The government effort succeeded to the extent that it was able to offer parcels of land free of charge, with complete services and facilities. These parcels of land were targeted those who had priority entitlements such as low income people and those lives within the shanty areas. Despite the dramatic political changes in 1969 that brought Colonel Gadhafi to power and the collapse of the monarchy, the early Gadhafi period during 1970s marked significant progress in developing plans and strategies for housing. This situation came as a result of the improved economic situation of Libyan citizens and the nation as a whole. During this period the government provided easy long-term loans as well as short-term loans. These strategies were planned and designed under the supervision of the real estate development fund that took into account representing short and long plans in order to enable people to successfully own adequate houses (Omar & Ruddock, 2001).

These efforts contributed to ending the era of the so-called slums in the 1970s, when the last shanty was burned and removed. The government continued those efforts until the early 1980s, and at that point the strategies changed based on the new ideologies and policies of the country. Since then, other squatter settlements have become visible and are growing steadily. This area spread to suburban Tripoli city, mainly in the southern part of the planned areas along the main roads, as shown in the land cover images of the areas in the following analysis step. Based on the author's visits and the opinions of interviewees, this phenomenon accelerated prior to the so-called Arab Spring in 2011 in the absence of state administrative and legal authority.

### **Characteristics of Squatter Settlements**

Through my recurrent visits to the study areas, I have seen that Tripoli squatter areas have unique characteristics that distinguish them from slums areas in the neighboring countries. The squatter areas in Tripoli were built and clustered unevenly. At first glance, however, some areas

seem to be arranged in a meaningful way, but without taking into consideration the planning standards and criteria as recommended by planning law No. 3 that regulates the planning process, as well as the ignorance of the recommendations of regional and sub-regional areas of Tripoli. These areas suffer from deterioration in terms of services because of a lack of facilities such as health and educational, consistency of housing types, public spaces, and technical and social infrastructure.

**Buildings.** The squatter areas in Tripoli generally contain an urban texture that differs from those built according to planning regulations of the urban planning law in Libya. The study area contains commercial, industrial, and predominantly residential buildings. Most of these buildings were in excellent condition, and most can be categorized on the basis of a villa type or modern residential building which is better than many areas located in planned areas in the city of Tripoli as shown in Figures 12 and 13.

Despite their modernity, most of the buildings are not subject to urban planning codes, and some of the buildings were built without obtaining permits from the department of housing or municipalities. This has resulted in inconsistency and overlap in land uses, including imbalance in the height of the buildings, site areas, covered areas, and open spaces. Imbalance also occurs in the proportion of covered areas to the total area of the dwelling unit. Discrepancies include clustering a neighborhood to give it a special character that sets it apart from other neighborhoods.



*Figure 12. Example of Residential Buildings*



*Figure 13. Example of Public Buildings*

There is a lack of open spaces, such as gardens, parks, and sports areas, with the exception of small yards attached to most residential buildings.

**Utilities.** In terms of the technical infrastructure, not all urban mixed areas can be fully supplied. The water system, sewage system, electricity, and phone system are below standard and may not be available to all the houses. Their distribution in these areas is not based on any plan, or subject to any regulations, particularly the electricity supply. Sewerage services do not exist. Therefore, the majority of the buildings were using septic wells (black wells) to collect their household waste and thus this waste is disposed of in Public trash dumps by cars prepared for this purpose.

The area also lacks a drainage system so that the roads fill with rainwater to the extent that some areas cannot be accessed during the rainy season. The majority of squatter areas are supplied by private wells. Additionally, the area also suffers from the nonexistence of social infrastructure, such as adequate schools and health facilities. This situation causes pressure on the existing social and technical infrastructure services, such as health and education facilities; for instance, the number of students per classroom has risen to double that of the official projections, and there is overcrowding in health facilities, such as hospitals, clinics, and dispensaries.

**Road networks.** The road system in general is unplanned, unorganized, unpaved, and does



not meet the basic requirements as show in Figures 14 and 15. The streets are too narrow for the passage of vehicles, and the increasing number of vehicles per household causes traffic congestions inside those areas as well as in the

public road networks. The reason is that the existing road systems have not been updated since the 1980s. Another reason is that the new road networks in these areas were not built based on the planning standards and criteria that regulate the process of urban planning in Libya as well as what the physical national planning has recommended. For instance, the width of the access roads does not exceed 6 to 8 meters within the squatter settlements while the planning standards require them to be 12-16m. This also applies to other roads classification.

Finally it can be concluded that urban planning does not match the requirement in terms of design and construction of the buildings. The buildings were constructed in a way that poses environmental hazards.



*Figure 13. Streets Shapes*

*Figure 12. Streets Condition*

Regarding the environment, there are unpaved roads and a lack of green areas or spaces, coupled with poor health and hygiene risks. Fresh groundwater is on the decline because the entire squatter areas rely on groundwater wells. These areas are also characterized by low to medium population density, with a concentration of people who are considered internally displaced persons (IDPs) and immigrants. The influx of immigrants is forming a substantial burden on the existing social infrastructure, such as clinics and schools of the area.

### **Qualitative Measure of Squatter Settlements**

**Overview.** In most social-science disciplines, including human geography, scholars use both quantitative and qualitative methods to analyze data. In quantitative approaches, researchers use statistical and mathematical models in order to understand how geography impacts the globe

or how human processes play out geographically. Quantitative techniques first began to be incorporated into human geography in the 1950s, but it was not until the 1960s that they were more uniformly adopted. In the 1970s, human geographers began to question the validity of positivist quantitative approaches to geography, realizing that there was a need to deal with complex, messy, irrational, and contradictory human behaviors. Because of this, human geographers looked at methods that would help explain the emotions, meanings, and values that make up our world. One of these methods is in-depth interviewing in a qualitative approach (Clifford et al., 2010).

As mentioned in the first chapter, in order to analyze the factors and forces behind the incidence and prevalence of squatter settlements, triangulation research methods have been applied to this research. In other words, both qualitative and quantitative research methods have been utilized to answer the research questions and prove or disprove the research hypotheses. Both methods are used to analyze two types of data: primary data and secondary data. Many researchers have affirmed the importance of the combination of triangulation methods. Researchers, such as Sandelowski (2000) realized the importance of utilizing both methods: “Researchers increasingly have used mixed method techniques to expand the scope of, and deepen their insights from, their studies. As advocates of mixed-method research have argued, the complexity of human phenomena mandates more complex research designs to capture them” (p.246). Accordingly, the data collected and analyzed is compiled from documents, such as books, electronic journals, academic papers, theses, and government documents. In addition, other data were collected and obtained from field observations and through pilot interviews.

**Interviews.** The intention of the interviews was to elucidate the views of squatters in addition to interviews with key figures, such as the urban planning agency, government institutions, and academics scholars. The reason is to pursue the incidence of squatter settlements

through the eyes of both residents, planners, and planning officials. Many research projects and papers published by scholars in this field were utilized in this research. As stated by Boyce and Neale (2006), conducting and analyzing interviews can be highly useful in assessing a phenomenon such as squatter settlements (Boyce & Neale, 2006). In this dissertation, the in-depth interview method was applied in order to explore many aspects that contributed to the incidence and prevalence of the phenomenon, such as the importance of environmental impacts, human factors, socio-economic factors, and political factors. In addition, interviews are a beneficial means of encouraging stakeholders to participate in the planning process and decision making. They also provide an organized way of dealing with this phenomenon by soliciting different opinions.

Another benefit from interviews is that they can provide trustworthy information directly from the people and fields of concern, which in turn helps to acquire specific data. The interview answers in this dissertation attempted to draw a true image of the situation in Libya in terms of urban structure and its expansion in order to provide possible actions to manage this evolution. These actions can be attempted by government efforts in addition to the interdependence of all parties to consider the underlying causes of the spread of this phenomenon in the main cities, such as Tripoli.

**Interview discussion.** The field study was conducted in 2013 and included 30 participants from different disciplines. The interviewees included 21 squatter residents in addition to interviews with key figures, namely: three urban planners from the urban planning agency, two urban planners from the utility consulting office in Tripoli, and four university professors. The technical issues discussed with the key figures were related to urban schemes, housing policies and land tenure policies, while the discussion with squatter resident groups was related to the characteristics and

socio-economic structure of the areas. The interviews also extended to include other questions regarding their jobs, place of origin, and reasons behind moving to the study areas.

Based on multiple visits and interviews with the above target groups, it became apparent that multiple factors are behind the incidence and prevalence of squatter settlements. Some of these factors are similar to those in neighboring countries or regions of the developing country with regards to economic, social, and political conditions, while others appear to be particular to the Libyan context.

As mentioned above, the interviews aimed to decipher the occurrence and spread of this phenomenon in Libyan society. Answering the research questions and verifying hypotheses raised in the introduction of this research helps in deciphering the factors behind the incidence and prevalence of informal settlements. The qualitative data also helps to answer the question of the extent of this kind of informal settlements in Libya, and the interviewees' answers suggest some recommendations and acts that may assist the government in combating and overcoming this phenomenon.

**Analysis.** The interviews were organized to cover all research objects through formulating unstructured questions to provide ample opportunity for the respondents to express their opinions about the squatter settlements. However, researcher interpretation is essential in order to facilitate analysis and simplify data collected. Scholars such as Burnard, Gill, Stewart, Treasure, & Chadwick (2008) have stated that “interviews transcripts, field notes and observations provide a descriptive account of the study, but they do not provide explanation. It is the researcher who has to make sense of the data that have been collected by exploring and interpreting them.” (Pp.429-430)



As a result of the exploration and the interpretation of the interview data, predominant themes point to the existence of multiple potential reasons behind the incidence and prevalence of squatter settlements. These reasons might exist in one form or in different forms in all countries; however, they might differ in terms of importance between the countries based on the local context of each country.

Libya as a Middle Eastern and developing African state has mirrored what is happened in other countries in terms of the development of cities, in the factors behind the appearance of squatter phenomenon, with some differences in the nature of each state. Myers (2010) confirmed that “Cities in Africa are not only growing rapidly but are also undergoing deep political, economic and social transformation” (p.4). He also clarified that some of these changes in African cities including Libya exceeded what are canonical notions of urban development (Myers, 2010).

In this dissertation, the main themes asserted during the interview session are extracted from the 2013 field visits and interviewee’s opinions. These themes include but are not limited to administrative instability and excessive state intervention; politics and ideology; corruption; quality of planning and implementation of planning schemes; and imbalances in the urban system. The major themes emerged from the interviews are as follows:

***Planning scheme formulation.*** Urban planning plays a significant role through facilitating and maintaining sustainable development at all levels. It is a mode utilized largely by government in African contexts for obtaining suitable land for the purpose of development in conjunction with the economic, social, and environmental development plans in order to improve the quality of life. The quality of planning might contribute and support the community in terms of safety, sustainability, and livability through access to high quality of services (Bureau, 2009).

Since Libya became an independent state, there have been a number of efforts concerning spatial planning and land management. Libya has gone through three generations of comprehensive physical planning schemes. The first planning scheme covered the period between the years 1966 to 1980, while the second comprehensive physical planning scheme covered the period from 1980 to 2000. The recent comprehensive planning scheme project is still under final stage preparation and partial implementation, and it is intended to cover the period 2000 to 2025. Despite having decades of comprehensive physical planning schemes, most Libyan cities have experienced uncontrolled urban expansion.

In theory, the physical development planning process in Libya has two stages: plan formulation and plan implementation. The formulation plan is specialized for the preparation of national, regional, sub-regional, and local schemes. These plans were based on planning standards and planning criteria. The formulation stage is intended to balance the spatial requirements of private and public sectors in terms of land supply. Planning implementation, however, mainly concerns the application of the prepared plans. The purpose of this stage is to make sure that all planned services, whether related to public or private sectors, are implemented based on the planning scheme's broad lines. Both stages are strongly related to each other as the success of one stage is dependent on the success of the other stage.

A number of Libyan planners and academic interviewees expressed their opinion regarding the urban planning projects (or schemes) in Libya. They stated that these schemes have faced considerable obstacles across nearly half a century. These obstacles can be viewed through two main elements of planning: the theoretical synthesis of planning and the merits of the applications process by successive national and foreign institutions of urban planning. The practical application and production plans received the big share of practitioners' efforts in planning. However, they

find a clear omission of the theoretical side, which in turn led to the failure of these schemes to achieve their goals.

In the same aspect, the interviewees also affirmed that the insufficiency of local professionalism in urban planning and urban design led to outsourcing to specialists for the purpose of preparing the majority of urban plans by foreigners who have limited knowledge about Libyan society and the local conditions of the country. In addition, the traditional planning methods that were applied in the formulation of the second generation scheme of 1980-2000 relied on top-down methods. In other words, the public role was ignored during the preparation of the scheme. There was no integration between sectors involved in the planning process. Furthermore, they extended their opinion that during the planning preparation, the Libyan planning authority relied only on technical known-how instead of seeing planning as a strategic process. Likewise the interviewees noted that the absence of direct public participation during the preparation stage of the development plans had an impact on non-control over plans and the appearance of residential squatters. These can be translated as land use conflicts, particularly over arable agriculture land that is owned privately versus urban land use. These issues caused a failure of implementation for the scheme, which in turn led to buildings being erected outside the planned areas.

Correspondingly, the interviewees revealed that an important issue was the availability of data needed during the formulation of the planning schemes. The lack of data accuracy has strongly impacted the success of planning schemes, particularly the second generation scheme of 1980-2000. The Libyan authorities still used analog methods in terms of documentation in all ministries and governmental institutions. These circumstances led to a 10 year gap between the planning formulation for the third planning project and the completion of the implementation process of the second generation plan. As a result of that, the situation was exacerbated to the extent that during

this gap the second generation scheme was not able to absorb the accelerated needs of housing and public buildings. Based on that, many problems have arisen as a result of this gap, such as squatters and traffic problems.

***Planning scheme implementation.*** One of the most important planning processes is the master plan implementation. It implies the involvement and contribution of all parties. Implementation of the master plan is a key element of successful planning. As most interviewees stated, however, master planning in Libya has primarily focused on plan preparation instead of plan implementation that receives low attention or to some extent was neglected due to lack of follow-up and excessive negative state intervention. This negligence or slowness of giving importance to the implementation of the urban schemes at all planning levels clearly occurred in the second generation schemes, in particular for Tripoli.

The absence of substantive aspects of planning implementation has played a prominent role in the emergence of squatter areas. The interviewees provided many aspects that cause the failure of the schemes, such as the lack of attention and qualifications for planning institutions at national and local levels regarding the implementation process. Another aspect they mentioned was the control of open spaces that were reserved for future expansion and the limited inclusive legal response towards the problem of squatting that led to the uncontrolled expansion of the footprint of the city and thus a failure to effectively manage city growth. This situation created instability and confusion in administrative decision-making and the adoption of arbitrary decisions, which led to population displacement following urban development. The interviewees also indicated that the weakness in legislation and absence of application of laws and regulations, lack of supervision and absence of follow-up through national and local authorities led to weakened means of control. In addition, the recommendations of regional and sub-regional

planning offices were ignored. The following sub-sections further examine factors stated by interviewees that contributed to the failure of planning schemes and thus led to the appearance of squatter settlements.

***Corruption.*** Interviewees thought an important issue concerned the corruption that spread in all areas of the state. This followed the announcement of the state's declaration of the socialism system (era of the masses) at the end of the 1970s when many laws were disabled, particularly those related to the acquisition and possession of land and trade. Consequently, the government sought alternative ideologies based on what was called the third universal theory (socialism). Under this ideology, most new laws sought to undermine the previous laws, such as laws confiscating land with rare or partial compensation. The interviewees considered these changes to be the first sign of corruption and legal uncertainty in all institutions in the whole country. Stiftung's (2009) report supports my interviewees' opinions:

The nationwide administrative system has extremely bureaucratic tendencies and is involved in jurisdictional disputes. However, it suffers from widespread corruption and low technical skill levels. The introduction of regional administrative level, the Sha'biyat, has not improved the efficiency of the administration (p.5).

This tendency later grew to the extent that the state and its failings had permeated Libyan society. As a result of that tendency, many projects failed, including the second generation planning schemes, particularly in Tripoli.

To go deeper into the matter, interviewees pointed out the apparent involvement of officials who held positions in the secretariat of urban planning or urban planning agency who delayed the implementation of master plans, particularly those of the second generation, for the purposes of earning illegal profits. Thus, the officials made decisions to create radical changes in the approved

plans with the excuse of development and without asking to the relevant committees to review the plans. This situation was often carried out with undue pressure on the committees involved in order to legalize the changes of the plans' contents that would increase the wealth for important people in the country. Most of those fundamental changes that occurred in Tripoli's master plan, caused confusion and changed some of the land uses, particularly those lands reserved for public schools; other land allocated to the health services as well as green areas and open spaces were also affected. These lands were converted to residential use for the purpose of profits and taking advantage of the pressing housing needs of the citizens. These actions caused a serious shortfall in the number of schools and health centers, thereby increasing occupancy of the existing units.

The interviewees also indicated that the situation became worse during the era after the fall of Gadhafi's regime. In this period corruption intensified to the extent that money laundering looted from state coffers led a large number of militia leaders and their loyal followers who took positions in the state to occupy most of the government institutions and take over public money. They used part of the money to buy real estate around the city of Tripoli. In addition, they divided their land into small plots outside of the approved plans and then sold them to citizens to build without regard to the law. These activities spread during the period following the collapse and absence of state institutions, both judicial and administrative, and therefore, landowners and land speculators throughout Libya, especially around major cities, such as Tripoli, were taken advantage of. There is no documentary evidence or financial paper trail to follow to prove my interviewees' claims, but their unanimity lends weight to the broad sense that these sorts of corrupt practices have been and still are widespread, leading to failed planning and the expansion of squatting.

***Administrative instability.*** Administratively, Libya faced dramatic changes in its administrative divisions in the post-revolutionary period that occurred after 1969 led by Gadhafi. In this respect a number of interviewees clarified that in this period the state was exposed to different types of administrative divisions, namely Baladiyat (Municipalities) during the period of 1977-1990, Sha'biyat (Provinces), and Communes from 1990 to 2011 respectively. This situation of instability was not related to the administrative division, but it was coupled with frequent merging and splitting in the administrative boundaries that affected the administrative subsidiarity and financial procedures for certain projects, such as housing and planning schemes. It also created interruptions between local and national authorities that led to ignorance and thus failure of some institutions.

Some scholars, such as Abdalla (2007), support my interviewees' opinions. He argues that the frequent changes that are represented in abolition, merging, and splitting of the administrative structure were an attempt by the state to enhance the management performance of these divisions and thus the state. These strategies and policies, however, led to confusion and interruption of state plans, such as urban planning schemes and housing plans, which in turn led to the prevalence of squatter settlements (Abdalla, 2007).

The interviewees also referred to the administrative instability that affected the successful implementation of the planning schemes. In other words, administrative instability was related to the dependency of planning, in that planning schemes were moved from one administrative area to another. This created confusion on how to create a follow-up planning process in terms of preparation and implementation. This situation had a negative impact on the planning schemes in the preparation period in terms of the accuracy of the data, such as the population census. Therefore, the population data is considered the basis for all stages of planning schemes and land

use requirement for all sectors, both public and private. The imbalance of information resulted in inefficiency of the master plan that had a particular effect on the future population and unexpected population growth.

In addition to the instability of the state administrative system, the interviewees revealed that the major bottleneck identified in this system is bureaucracy, as Libya had a complex bureaucratic structure that managed all aspects of the Libyan state. The bureaucracy played a significant role in delaying planning formulation and implementation. The approval of planning schemes during the formulation as well as planning implementation often took years to approve, which in turn led to invalidation of the plan based on the estimates that had been made according to the plan. Abdalla (2007) stated that during the 1970s the bureaucratic administrative system in the country became more operational than before. He stated that “this system was based on purging tribal leaders from all local and provincial government administrations and replacing them with better educated people who were seen capable of implementing a rational long-range planning and policies in the country” (Abdalla, p.122). A few years later, particularly after the declaration of the era of the masses, government leaders recognized that this bureaucratic approach failed to manage the administrative system in most sectors and was a result of state chaos under the rule of the socialist system (Abdalla, 2007).

***Political transformation.*** Since Libya became an independent state, it has witnessed dramatic change in its political system’s due to the regime adopting in sequence various political ideologies. The Libyan revolutionary regime began in 1969 after the overthrow of the monarchy that lasted from 1951 until 1969. The revolutionary system ended by 1977 after the proclamation of the people's authority (the era of masses); this system was conceived to organize all sectors of Libyan societies based on the socialist ideology (Ahmed, 2013). Based on those changes, the



country was divided into several political divisions at all levels including the national level. UN-Habitat (2011) reported the hierarchy of Libyan political system beginning with the national level and:

Below the level of central government, regional and local government and administration in Libya has in theory been conducted through the 22 Sha'biyat (administration areas), basic people's congresses and associated basic people's committees. In the Sha'biyat, councils and committees have been responsible for local administration. Other Sha'biyat offices and structures have also existed and have been connected to national-level offices. The Sha'biyat have repeatedly been recognized and re-drawn, as has been the case for central government structures (p.20).

The interviewees indicated that in theory and at first glance, this political and administrative coordination might sound like idealized management, but instead it had a negative impact on all of life in Libya, and particularly on the planning process. The interviewees emphasized that the political instability followed by administrative changes for Libya directly impacted the success of the planning process in the country. In the period prior to the declaration of the era of masses, both political and administration systems had recurring changes based on central government ideologies. This situation resulted in unclear roles and lack of coordination, and cooperation between institutions as though the local government and central government had not occurred. Based on that reality, planning formulation and implementation has suffered accordingly. UN-Habitat (2004) recognized the reality of the Libyan political situation as follows:

By law, Libya has one of the most politically decentralized systems in the Arab region. Local governmental institutions extend over education, industry, and communities. But in practice, the central leadership dictates the power of these institutions. Civil society and all

non-state political organizations are actively suppressed, creating little political participation from the bottom up (p.9).

The interviewees discussed how the failure of implementation of the second generation planning schemes and thus the appearance of squatter areas was due to internal as well as external political factors. During the 1980s, Libya confronted many external challenges, such as international community sanctions. These sanctions came as a result of Libyan support of the liberation movements that included the violence of Gadhafi, which ended with the shooting down of civilian aircraft. This action resulted in the prohibition of importing to Libya of technology that was used in civil works including those used in surveys and the planning and implementation of urban plans. This situation lasted for ten years, which negatively affected the success of planning schemes. Interviewees also affirmed that this political crisis had caused delays in the preparation and approval of the third planning project, especially regarding the portions of it that were being prepared by foreign companies. This situation created a large gap between the second generation plan and the third one. As a result of ten years of delay, the private and public sector were directed to use the areas that had been reserved or allocated for construction of schools and health facilities to instead build living spaces, and they even exceeded that amount of land by steering to the outskirts of the city to get more land to build projects.

The political ideologies had a direct impact on the success of the implementation of previous planning schemes. The first generation planning schemes were designed on the basis of the ideas and attitudes of western political and planning schools in terms of distribution of land use, especially commercial services that were planned based on the horizontal proliferation of services, particularly commercial facilities. The purpose of that trend was to ensure that every neighborhood and community is served by these services.

The second generation planning scheme came into view as a result of divergence in the ideologies where the planning schemes prepared were based on political trends of Libya that supported socialist systems or that replaced the planning system created on the foundations of the capitalist Western oriented system. Consequently, based on that ideology, trade was prohibited and thus commercial activities were distributed in certain areas where the state-owned corporations or parastatals prevented citizens from any commercial activity. This made it difficult to apply the schema of the second generation plan and resulted in abuse of that scheme in order to solve housing problems.

The other internal political factor was the recent so-called Arab Spring where conflict and civil war became significant issues in many places in the Arab world, particularly in Libya. These conflicts contributed to the displacement of people internally and in many cases externally. Some literature sources indicate that in Libya about 70,000 people faced protracted internal displacement as a result of civil war prior to the fall of Gadhafi's regime (Williams, 2012). This situation was intensified to the extent that entire communities were displaced from their land, such as Tawerga city and other places in the western part of the country as a result of insecurity; these people do not have access to their original homes and often their houses were destroyed due to the bloody events.

Most interviewees said that because of insecurity in conflict places, masses of people moved to the main urban centers, Tripoli and Benghazi, after the demolition of their properties and homes motivated by revenge and ethnic cleansing caused by tribal-oriented militias. Tripoli and Benghazi received many displaced people because they have relatively less tribal influence and intolerance due to their cosmopolitan urban and civilian nature. This situation likely will not easily

be resolved in the coming years as the inability of local authorities and the state to provide alternative shelter to accommodate refugees continues.

As a result of that situation, most refugees have chosen to settle in the suburban areas that have a larger abundance of lower priced houses available. This movement encouraged many land owners and land speculators to divide their land into small pieces to erect housing units for the purpose of selling or renting. This action converts arable agriculture land into built-up areas for the purpose of accommodating the refugees.

The total collapse of state institutions, whether in terms of legislative or judicial units, encouraged people and land speculators to take advantage of the current state situation to construct as much as they could within a very limited time. Their excuse regarding these activities is that they expect the state will deal with this new construction as a status quo; they also assume that the state will compensate them or legalize their new construction and thus adopt it as part of the approved urban area. For these reasons, thousands of new buildings emerged at the expense of agricultural land, especially within the four years since the Arab Spring of 2011.

***Excessive state intervention.*** The interviewees also discussed issues behind the incidence and prevalence of squatter areas in the periphery of the Tripoli city; many stated that this is a result of the excessive state interventions that represent impromptu decisions by the state led by Gadhafi. One of their issues concerned decisions about the Izala, which means demolition or urban regeneration projects without any consideration of existing adopted urban plans. Many areas in Tripoli's planned areas that were built during the 1960s and 1970s were demolished based on this decision. These areas include commercial and complete residential neighborhoods. As shown in Figure 10, the areas highlighted in blue include Alhadaba Alshargya, Souq Althulatha, and areas along the Alswani-Tripoli road are the places most affected by this decision. The interviewees

clarified that these areas were a residential place for more than 40,000 residents who were evacuated and their homes demolished without intent to provide any alternative to these peoples' demolished properties. The state did provide partial compensation, but it was not enough to satisfy their needs for replacement of the inhabitants' demolished properties.

The interviewees also believed that the direct effects of the state intervention for the purpose of redevelopments were mostly directed at residents who owned or ran commercial activities. They mentioned that those residents who worked in the private sector in those areas experienced unemployment due to the lack of sustainable planning schemes that would have accommodated new replacement commercial activities. Additionally, the insufficient amount of compensation granted to those residents in demolished residential neighborhoods contributed to the displacement of thousands of people towards suburban areas of the city, particularly the southern suburban areas, for the purpose of obtaining a piece of land to build a house. As a result of that movement, the city again had replicated the pre-revolutionary problem by the appearance of squatter areas in the periphery of Tripoli.



not eligible to own more than their needs. This ideology allowed those people who occupied rented homes to own those units permanently without any compensation to the original owners.

These laws coincided also with the requirements and regulations of Islamic law that each member of the family whether male or female were allotted shared areas of land upon the death of fathers; as a result, most of the land became fragmented into small properties. This situation encouraged land owners and land speculators or those who are seeking to gain a quick profit as they are fearless of the consequences of those acts that have been exacerbated by the results of subsequent years of upheaval (Stiftung, 2009).

The interviewees also discussed the over-penetration of socialist thought among politicians in Libya. The state eliminated the rent policy in order to let people who rented properties convert them to single family ownership. This was related to law no. 4 that was issued in 1978 that aimed to convert all renters into owners, particularly land and homes where they rented. This process was followed by burning of property documents and records by Gadhafi himself in order to insure the application of his socialist ideology. As a result of that policy, people started to act negatively when landowners and real estate as well as apartment and residential building owners decided not to lease any property to tenants due to their fear of possession of the dwelling to be rented under the law. This policy also prevented public participation, such as via local organizations, from involvement in the formulation and implementation processes during the last planning schemes. Most projects failed, particularly the planning schemes due to the ignorance of the role of private sectors. As a result of that, many violations against the planning scheme occurred. The government did not take any action against the continued violations of the planning schemes and did not act based on the law, especially law no. 3 issued in 2002 that defined all planning aspects.

**Housing Deficiencies.** As mentioned in the previous chapter, there had been many strategies meant to satisfy and solve the housing crises since the country gained its independence. A number of interviewees noted that the shortage of housing supply was due to the failure of the state to provide housing for low-income families, to provide long-term loans that addressed the need for housing with the continuous increase in the population, and to provide for the increase in the size of household of Libyan families. In the literature review, scholars, such as Sheibani and Havard (2005) supported the interviewees' opinions when they stated that the public and private sectors were both intense participants in the housing construction process. The private sector was mainly involved in investment in construction in the 1960s and beginning of 1970s, until the emergence of new laws such as property ownership law no. 4 at the end of the 1970s. This law restricted each family to own only one dwelling. As a result of the new law, there was a decrease in financial commitments by the private sector that diminished the size of the housing process (Sheibani & Havard, 2005).

The interviewees also stated that the exclusion of the private sector and its contribution to the housing process coincided with major shortfalls in expenditures and the budget granted by the state for housing sector; this led to the cancellation and suspension of most of the pledges made by housing providers. They also mentioned that the state authorities closed their eyes to the situation regarding its obligations to provide decent housing. These developments and changes in housing policy and events pushed people to find solutions outside the authority of the state by moving towards the urban fringe of the existing urban areas in order to acquire a plot of land and thus build upon it themselves without regard for the laws that regulated building and urban planning. However, these building activities contributed significantly to the emergence and spread



of informal areas on the outskirts of large cities such as Tripoli. This situation became worse because of the state's ignorance or willful neglect of this problem.

Abdalla (2007) argued that the Libyan state changed from being an active enabler role when the state was intensively participatory in the housing process during the 1970s. It also provided long-term loans in addition to providing land for the individuals as well as for public housing projects. However, in the 1980s and onwards, the state abandoned that approach and instead moved towards what Abdalla (2007) called a passive enabler approach where the state did not provide housing any more. As a result of that, housing loans within urban areas were terminated because of shortages of land that were prepared for the purpose of residential land use. The supply of loans that were obtainable in agricultural land has led to the shift of large numbers of young people getting married to move to the areas adjacent to the city in order to acquire a loan for the construction of housing units. The state policy allowed them to register converted agricultural land to build their units. This process contributed to the proliferation of unregulated buildings on the edges of the city (Abdalla, 2007).

As mentioned previously, in the 1970s and 1980s, the government played a significant role in the provision of housing when a large proportion of public spending was invested in housing. However, since the beginning of the 1990s, the government no longer was the main provider of housing due to administrative instability and changes in state ideology. Based on that situation, Abdulla (2007, p. 168) reported that there was an "accumulated deficit in housing units at the end of the year for 2000: Based on a housing deficit estimated at 73,387 dwelling units in 1995, and on an annual population growth of 2.86 per cent in 1995, the accumulated housing deficit at the end of 2000 was estimated at 142,000 housing units." This means that a lack of housing supply presents a number of difficulties in the housing sector. The accumulated deficit of housing units

reached 142,000 units in the year 2000, and it had accelerated to reach 25,000 units per year by 2006 (Abdalla, 2007). This situation caused significant housing shortages that accumulated from year to year, a gap that has been expanding still farther since Abdalla's 2007 study. This produced a situation where the state has been unable to find an appropriate solution and was unwilling to incorporate a regulated private sector into a possible solution, thus pushing large numbers of people to go to suburban areas of large cities to meet their housing needs.

***Complexity of land tenure.*** As implied by a number of interviewees, most bottlenecks were identified in the implementation of the second planning scheme, and thus the incidence of squatter settlements was tied to land ownership problems. The interviewees stated that the process of abolition of agricultural land for the public interest, particularly for the purpose of urban development in Libya, is extremely difficult. These policies adopted by the state as a step to prevent the limited arable land. In other words, agricultural land constitutes very little area compared to the huge area of the country, so it is necessary to regulate using the land as much as possible. In addition, the state authority's failure to provide adequate compensation to the land owners has led people to refuse to concede their land, which is the only source of their livelihood; there are also tribal considerations for clinging to the land. As a result of this issue, planning schemes were not implemented as planned.

The participants clearly stated that there was a change in economic conditions in the country as a result of the opening up after the cessation of the geopolitical embargo in addition to the high demand for land for construction. Along with that transformation, the stagnation in agricultural production of the agriculture land occurred because many land owners or farmers living adjacent to the city divided their land into small plots for construction. One other concern was the lax oversight of the state as well as the possibility of access to loans and the possibility of

supplying electricity to those plots as they were agricultural land. Based on that situation, a large number of people instead considered suburban areas in order to gain plots of land outside of the approved urban plans.

The interviewees noted another vital issue, which is the practice of land sales by land speculators as a means of creating profit. This aspect resulted in the materialization and spread of squatter settlements in the areas surrounded the city. The land owners divided their land with unskilled planners who were ignorant of planning criteria and laws; they responded instead to the desire of landowners to reserve a large number of plots for residential purposes in order to gain more profits. Thus, the target land in the area was exploited and the situation led to the unplanned and rapid horizontal expansion of the city. The interviewees also referred to an additional issue that contributed to the spread of squatter settlements at the expense of agricultural land on the outskirts of cities, which is the ease of obtaining building permits on different sizes of land plots in order to erect a single family house or commercial activity.

As stated by some land owners within the study area, the loss of agriculture areas as a disparity between low-yield agriculture and land prices represents a powerful incentive for farmers to split their farms. They expect that this situation will intensify as long as the economic incentives remain. They also recommend that in order to stop or mitigate this problem, the state should immediately act by applying regulations that prevent the conversion of agricultural land into built-up areas. The most successful act would be to stop issuing permits for converting agricultural land into urban areas. In order to obtain this, there is a need for mechanisms to improve the profitability of agricultural activity and the economic incentives to farmers. The other factors that hamper agricultural development are the absence of a market mechanism, the scarcity of water for

irrigation, the lack of modern methods of agriculture, and low market prices. As a result of those factors, arable land is decreasing in the presence of unregulated urban areas.

***Demographic variation and population displacement.*** Since Libyan independence and the discovery of crude oil, the country has faced dramatic changes in its economic and social aspects. As a result of those changes, economic centers, such as Tripoli, have accommodated the most economic activities. Accordingly, Tripoli, as has been true in many main cities in Libya, faced rapid growth in its urban population, particularly in the last four decades. The city became an attractive location where a high proportion of the Libyan population has chosen to live and work. This evolution has led to an increase of its urban population to reach 77.9% of the total population in the country. This population increase came about as a result of natural increases in household number and rural-urban migration (Boutayeb & Helmert, 2011).

The discussion of the impact of the dramatic increase of the Libyan population focused mainly on the increase of population, particularly within the city and its urban fringe. The interviewees referred to four factors that originally caused the increase of population: the increase of the number of households within the urban and suburban areas, rural-urban migration, population displacement, and urban to suburban migration. The interviewees stressed that migration has played a significant role in the incidence of informal settlements in the urban fringe of greater Tripoli. Some scholars referred to in last chapter pointed out that most of the rural-urban migration occurred after the Libyan state gained its independence and discovered a significant amount of crude oil during the 1950s. This situation encouraged farmers and Bedouins to migrate towards the urban areas in the north for the purpose of work and better living conditions. These movements continued during the 1960s and 1970s and began to decline in the 1980s and onwards

as a result of improved living conditions and the policy of resettling the nomads in their original areas in addition to improving the rural living condition.

Most of migration waves settled around the existing urban areas and formed the so-called slum areas south of the Italian community's urban areas. These communities were left behind by Italian colonizers after World War II. After the evacuation of the remnants of colonialism, the Libyan state pledged to move people who settled in slum areas towards the Italian community areas in Tripoli. The government also committed to expanding urban layouts and building public housing in addition to granting loans to build within the approved urban plans and rural areas. Through these activities, the so-called slum areas were eradicated by the end of 1970s. However, the interviewees revealed that after opening up the country following the end of the siege and also after gradually abandoning the ideology that was imposed by the state regime in terms of return the trade and economic activity, the cities faced a new era of migration from the countryside to the sub-urban zones of the city, but this was not as great as it was in the 1960s and 1970s.

One important area that interviewees focused on was the migration from urban areas towards the outskirts of the city that had an abundance of cheap land compared to land within the planned and approved urban areas. The interviewees pointed out that the most important factors that contributed to the escalating of squatter buildings on the outskirts of large cities such as Tripoli is the result of desire of people to obtain separate housing that contains a private yard; therefore, they left their small units within the downtown and its vicinity. The reason behind this desire is the increase of size of households due to the marriage of their sons. Some families left their units in the planned areas and moved towards the urban fringe due to the life span of those buildings, as many feared the collapse of their residential units. A factor that supports the opinions of the squatter interviewees is that a large proportion of them confirmed that they came from different

parts of planned areas in the city of Tripoli, particularly those areas targeted by the development plan.

In addition, some interviewees confirmed that they came to these areas for the purpose of obtaining a piece of land and then tried to obtain loans from different banks to erect a house. Buying plots of land on the outskirts of the city was affordable, as the price of land was low compared to those lands in the approved areas. This condition encouraged people to exit areas within the city of Tripoli towards the outskirts of the city.

It was also more likely to obtain a loan for housing on the outskirts of the city than in planned urban areas. The Ministry of Agriculture allows land segmentation and will issue a permit for building a house regardless of the size of the land. People can acquire a building permit and build either by overriding or circumventing the laws that govern agriculture land use outside the planned urban areas. Thus, these circumstances encouraged many farmers and land speculators to split large agricultural land into small pieces for the purpose of building.

The interviewees also asserted that the biggest proportion of the residents of these areas moved from different neighborhoods in planned areas due to the recent policy of the state to evacuate areas for the purpose of redevelopment within planned areas in Tripoli. Failure to implement scientific and sustainable policies has forced large numbers to move towards urban fringe areas. Therefore, as mentioned previously, the main element that has contributed to the aggravation of the problem is that the authorities did not provide adequate compensation to people who had been displaced; likewise, they did not provide any alternative place prior to displacement. This action has created new underdeveloped areas similar to those they had intended to redevelop.

***Urban system imbalance.*** A number of key interviewees stated that the reason behind the concentration of people within the urban areas as well as its outskirts is due to the disparities

between the urban areas and the rural areas in terms of the services and living conditions. They clarified that thousands of graduate students or those who studied abroad who are originally from other cities and the countryside intended to settle in Tripoli after their graduation or their return to the country. They also blame the state that gave more attention to the main coastal cities and neglected the development of the remote cities in spite of the existence of a national physical plan. A number of scholars, such as Kezeiri (1982) and Salhin (2011), confirmed in their research that before the time of independence, the distribution of Libyan population was characterized by consistency and balance between countryside and urban areas. However, this situation was interrupted by many factors, such as economic variability and the rapid social and demographic alterations associated with the independence and discovery of oil. Libya is also affected by global warming similar to the rest of the world in that it has experienced climate change and drought (Kezeiri, 1982; Salhin, 2011). Therefore, climate changes and successive droughts have made it difficult to develop desert areas and those areas located away from the coastal where rainfall and air relatively milder. In addition, the urban system in any country is distributed based on the concentration of population taking into consideration that the population criterion is a unique factor along with the environmental and economic factors. Population is the most dominant factor for determining the number and size of urban areas and locations. Considering the disproportionate population distribution in Libya, it can be said that there is also an imbalance in distribution of the urban system in the country as shown in Figure 17.

This difficult equation resulted from the incompatibility of the factors that determine the distribution of urban areas that have led to imbalances in the spatial distribution of urban areas. This caused an overstock of population in some places, such as Tripoli and other coastal cities, which increased the size of each of those cities and in turn increased the demand for housing and

development outside the approved plans. Salhin (2011) supports the ideas of the interviewees regarding the disparities in terms of the distribution of urban settlements in the state, noting that Tripoli and Benghazi became a dominant cities due to a lack of medium sized urban areas. This situation generated a widening gap between the north and the south in terms of living condition.

Source: Drafted from 3<sup>rd</sup> Generation Plan, National Physical Plan, 2006

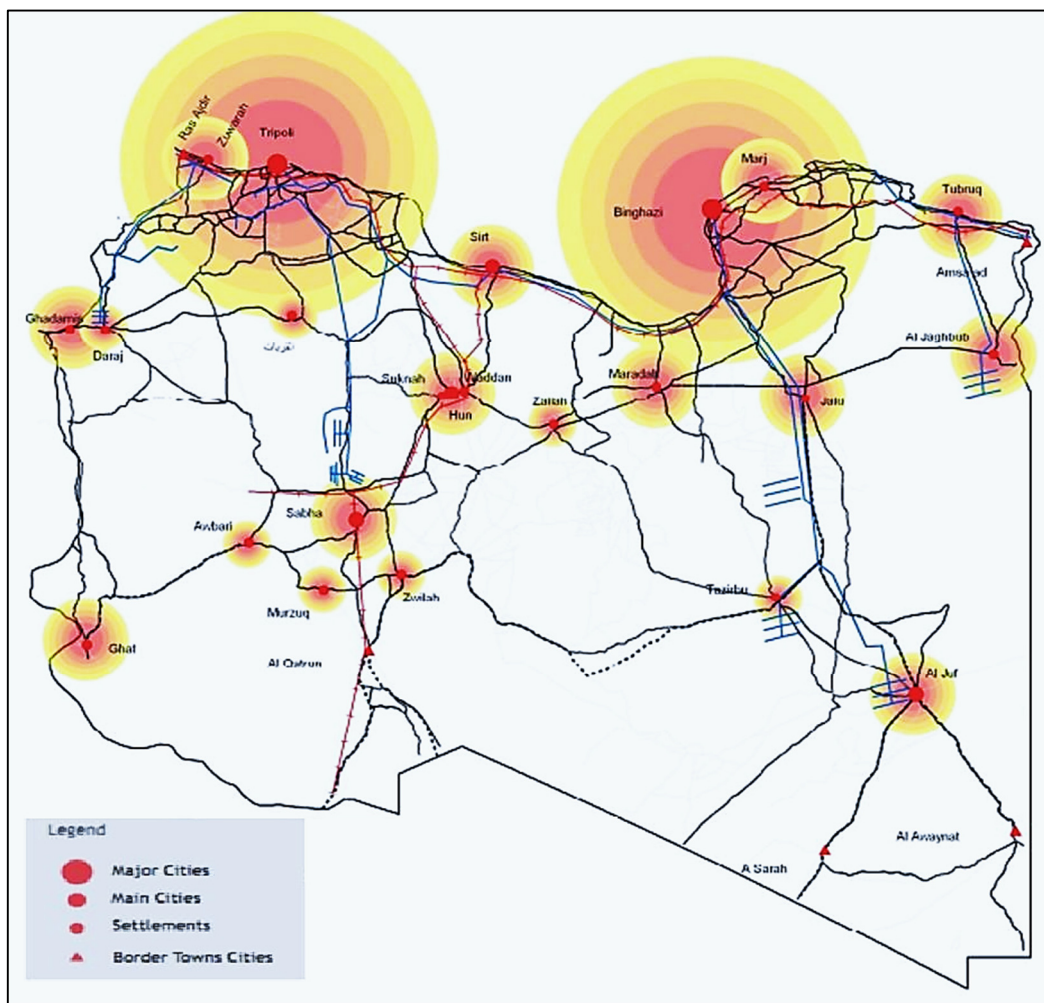


Figure 15. Libyan Urban System



## **Quantitative Measure of Squatter Areas**

In most developing countries, particularly in African countries, there is a significant spread of urban areas at the expense of arable land and land with economic and environmental value. Land with valuable archeological and forested areas are affected in unprecedented ways whether in highly populated countries as in Egypt or in countries with low population such as Libya. Most of this expansion has occurred due to the economic and political inability of some states as a result of their failure to manage the country effectively. As a result of that devolution, some of the governments failed to provide adequate housing and manage the land tenure, which led to the spontaneous peripheral districts that densified with the deficiency of public services.

As stated by Chaline and Paul (2001) “peripheral sprawl is suspected of leading to the devitalizing of city centers, with the segregation of urban areas. However, the most often quoted accusation is that of wasted space, landscape deterioration and, more specifically, the irreversible loss of farmland, the result of which is to make some countries more dependent on external supplies” (p.10). Gallini (2010) also explained that when growth happens at urban peripheries there are negative impacts on rural areas around urban centers because the people from the urban centers are moving into the rural areas; this leads to a decline of the urban downtown. He also clarified that “standard suburban neighborhood often permit... only single-family detached homes and larger plots, and their designs require the use of automobiles” (Gallini, 2010, pp. 5-6). These arguments mirrored the situation of Tripoli areas recently.

Although the impact of informal settlements, squatter settlements can vary from country to country and even from one city to another based on specific local contexts. As mentioned previously, the most noticeable effects of this phenomenon in Libya have occurred in the state capital, Tripoli. It is a major urban area in the country that is expected to experience extensive

pressure on land supply within or in the vicinity of the urban areas, in particular because of the increasing over-concentration of multiple function trends. These trends come out as a result of urbanization consequences that in turn evolved at the expense of the most fertile arable land in the country (Urban Planning Agency, 2007).

To realize the validity of the hypothesis that is raised in the introduction of this research and also to certify the results obtained from the interviews that were conducted with squatters and stakeholders, an analytical analysis of the study area was made by utilizing a geographical information system and remote sensing techniques. This technique allows a broad vision for the study area and permits officials to see the problem in order to take quick and appropriate decision about that problem.

**Analytical tools.** As mentioned in the methodology section of this dissertation, Remote Sensing (RS) and Geographical Information Systems (GIS) are considered crucial tools to improve the quality of planning formulation and implementation. These methods provide a unique perspective on how the urban areas grow and how land use has changed over time, thus quantifying the amount of land that was exposed to significant changes and was converted to built-up areas. These tools have been utilized in analyzing and mapping the squatter areas in the periphery of Tripoli's metropolitan areas. Satellite images used in this process were selected according to availability due to the shortages of the data. The data consist of three temporal Landsat thematic mapper (TM) images that were captured between July and August in 1996, 2009, and 2014. The temporal images demonstrated the expansion of the city of Tripoli during the 1996 and 2014 period. The second and third planning schemes were overlaid to determine the areas of squatter settlements that emerged outside of the planned areas. Much of the literature confirmed that

Landsat images with resolutions of 15-30 were widely used and were appropriate for analyzing and mapping the phenomenon of squatter settlements.

Pre-processing steps were implemented that included acquiring images, image stacks, and image substitute (masking). Image stacking was performed in order to produce an image composite, while image masks were utilized to focus only on the areas of interest, specifically the Tripoli agglomeration. An unsupervised classification was chosen in order to obtain classes that correlated to the land use and land cover in reality. The final stage was to extract built-up areas and measure their expansion at the expense of other land uses.

**Image processing and mapping.** Remote sensing is a technique with the capability to deal with environmental phenomenon. It is capable of providing unique perspectives on the process of land use alteration (Bhatta, 2012). The most widely used tools are image classification represented in the methods of supervised classification and unsupervised classification. In this analysis, unsupervised classification was utilized to measure the urban sprawl, particularly the squatter areas. Unsupervised classification is a computer-based process that is utilized to classify a multispectral image where the number of pixels are grouped according to their reflectance properties and converted into clusters. This process involves user intervention in order to identify the number of clusters; the user also has to determine which image algorithms should be used, such as “Iterative Self-Organizing Data Analysis” (ISODATA) (Hardin & Jensen, 2009).

In the analysis process, unsupervised classification was performed on Landsat 5, 7, and 8 thematic mapper. The classified images display Tripoli’s urban sprawl between 1996 and 2014. The Landsat 5 satellite with 30m spatial resolution captured the 1996 image in July, 1996. The Thematic Mapper Landsat 7 satellite with spatial resolution 30m captured the image in July, 2009 while the thematic mapper Landsat 8 with 15m spatial resolution captured the image in July 2014.

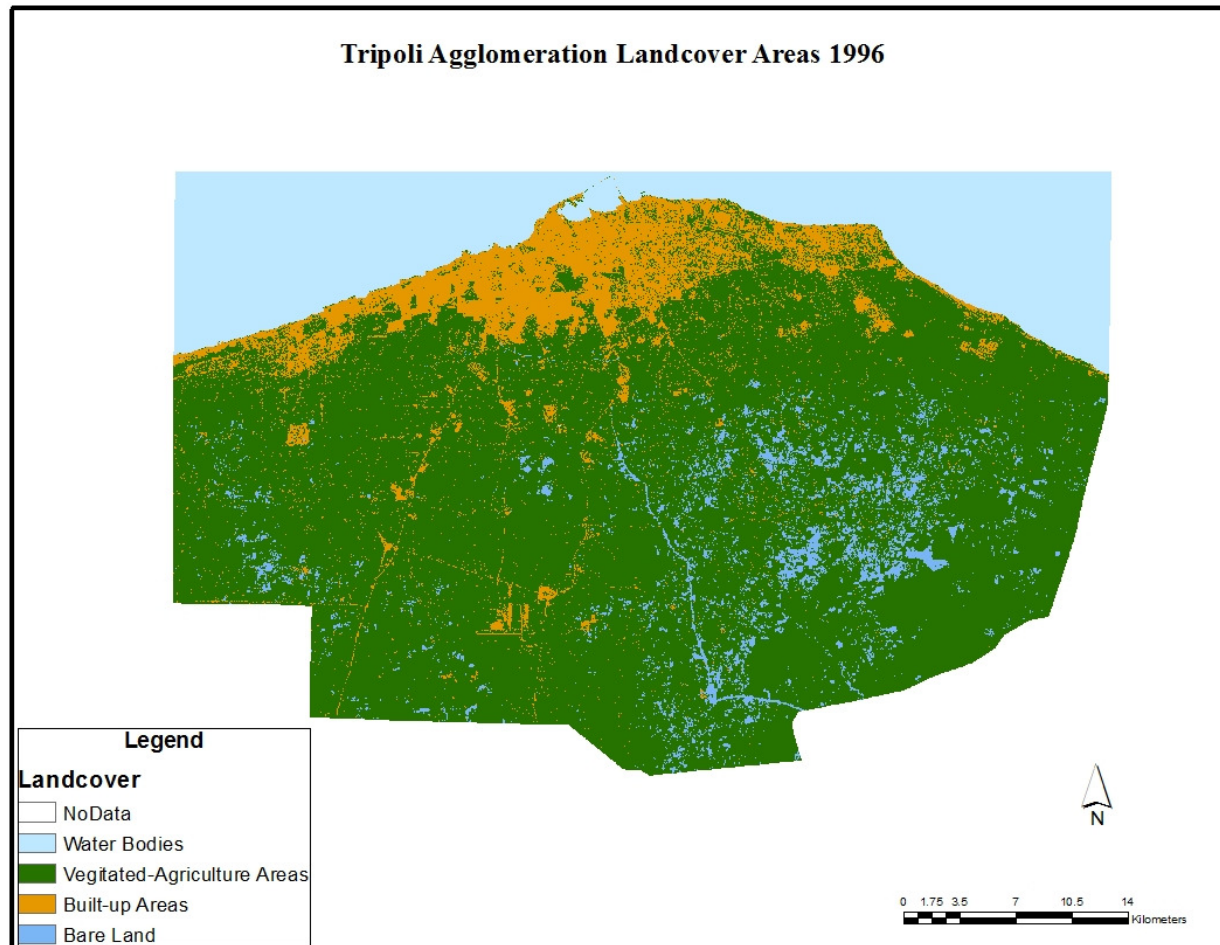
All temporal images were free of clouds and of high quality. The first step in this process was to determine the suitable bands in order to provide visualization of the image contents. In this visual analysis, the Landsat images were changed to true color as a color composite from bands 3, 2, and 1. In band 1 the ground feature was displayed blue, band 2 was displayed in green, and band 3 was displayed in red. In this combination each land cover appeared differently. For instance, man-made features such as built-up areas and paved surface appeared as white to light gray while vegetated areas appeared as light to dark green.

The second step utilized the ISODATA algorithm. It was used to repeat the clustering of raster images in order to obtain the maximum number of iterations chosen. In this process, 50 classes were assigned to increase the accuracy and reduce the ambiguity and overlapping of similar classes. The color of these classes provides a first impression and an indicator to the real ground classes. However, some of these classes, such as “mixed pixels,” did not appear to correlate with the expected results. The output of this classification was 50 classes with different colors. These classes were recoded into four classes that represented water bodies, vegetated and agriculture, built-up areas, and bare land. To accomplish the goal, the recoding process was performed to generate the desired four classes. The next steps was to assign the proper color for each output classes in order to represent the land cover.

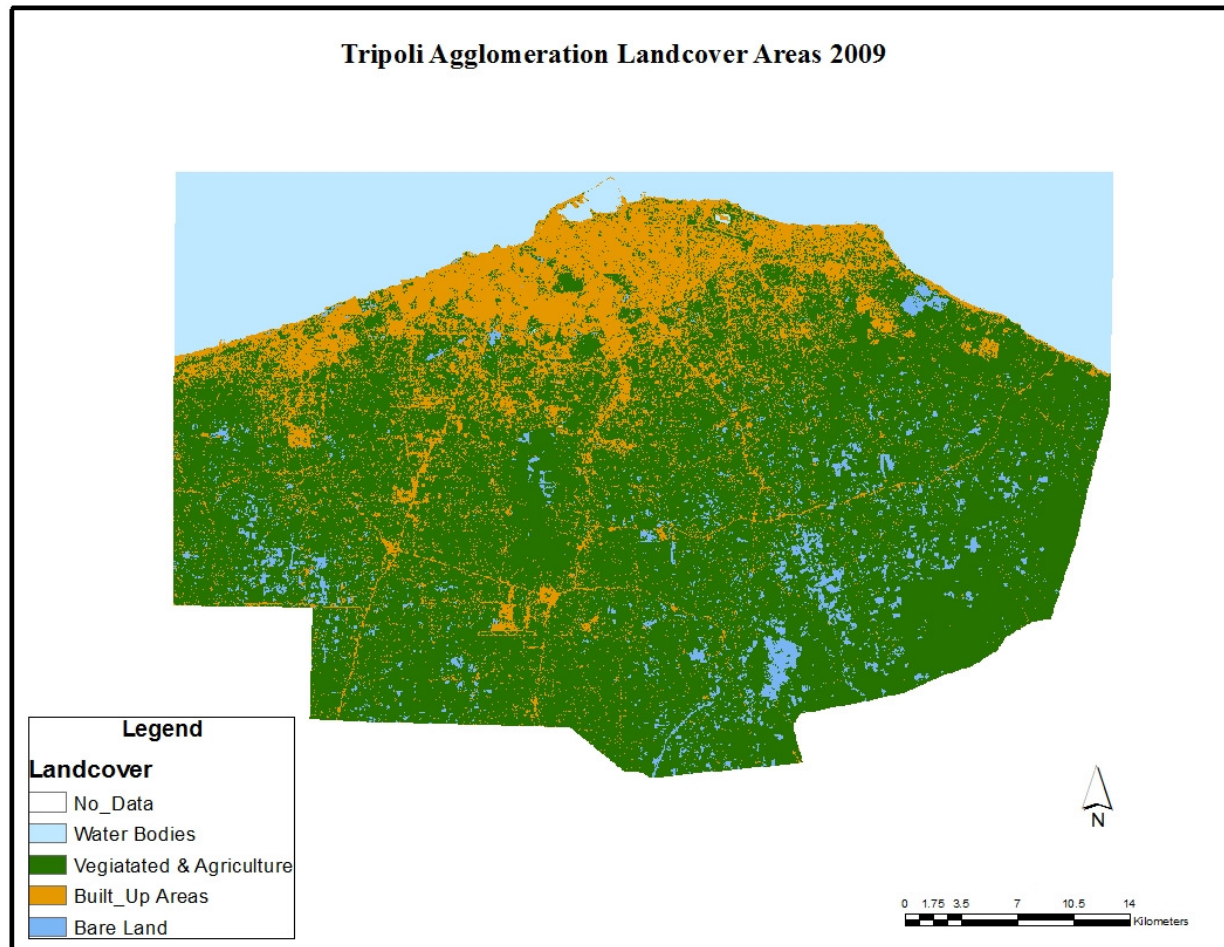
In order to produce logical land cover thematic maps, the classification needed to be generated with a high range of accuracy. In order to accomplish this goal, a comparison between classified maps created by unsupervised classification and a reference high resolution map, such as Google Earth maps, was performed. High accuracy was obtained: 92% from classified Landsat 1996, 90% from classified Landsat 2009, and 91% from Landsat 2014 respectively. These results were obtained by creating 120 random points in each image that each provided a comparison

between what was recognized in classified maps and what should be on the ground. The other reason for obtaining these highly accurate results is that the author has knowledge of the areas of interest.

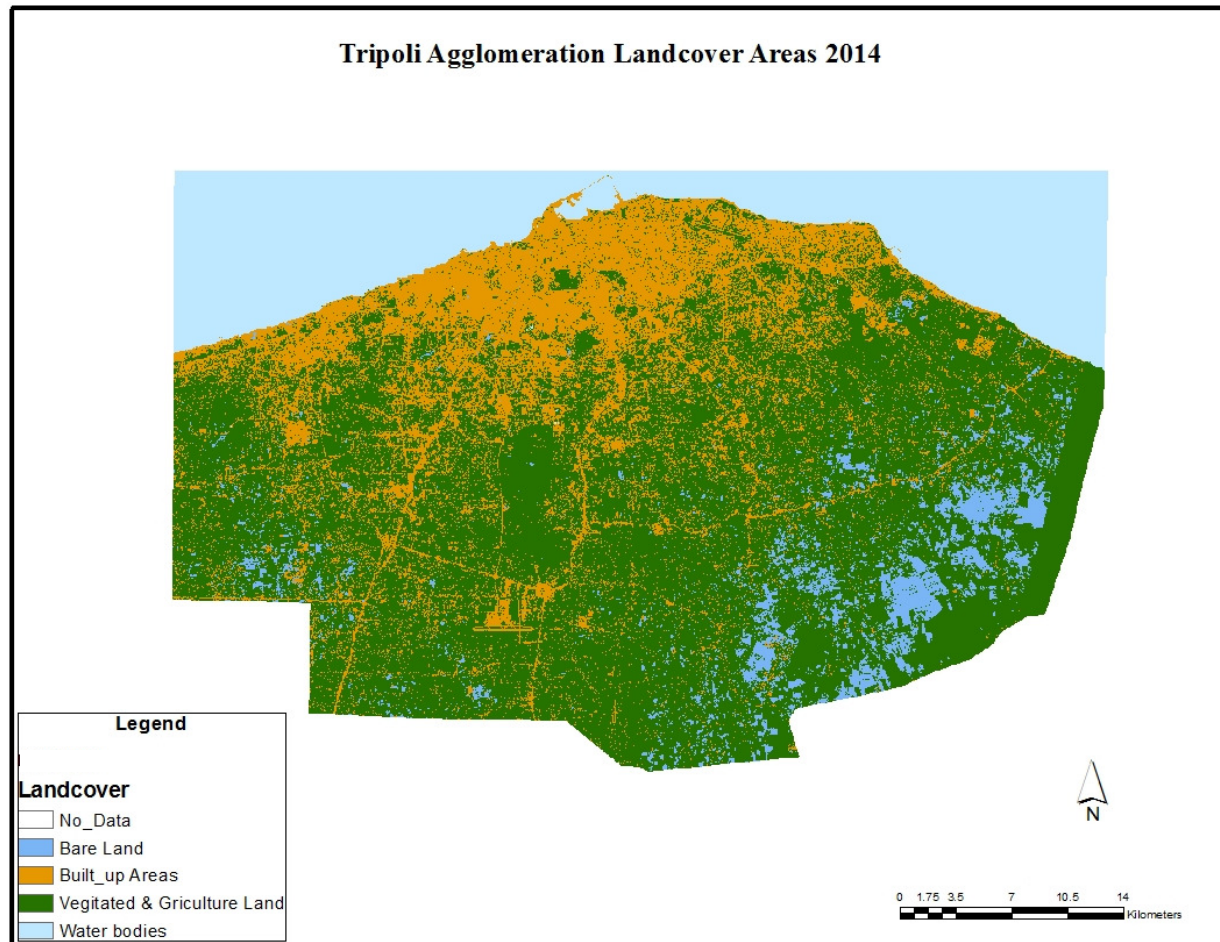
**Results and discussion.** The outcomes of this analysis showed that the study area was classified into four heterogeneous classes: water bodies, built-up areas, vegetated and agriculture land, and bare land areas. As shown in figures 18, 19, and 20, each class or land cover was assigned with corresponding colors that represented the characteristics of each land cover. Table 8 and figure 21 also show clearly the percentage of each class with corresponding areas for each image. The four land cover classes represented the dominant land cover in the study area.



*Figure 16.* Classified Land Cover Classes, 1996



*Figure 17.* Classified Land Cover Classes, 2009



*Figure 18.* Classified Land Cover Classes, 2014

Based on the outcomes of the classified images derived from satellite images for varying periods of time and confined to 1996-2014, the results were as follows. In 1996, vegetated and agriculture land dominated the land cover of the study areas. It reached 125,918.82 hectare and represented 67.03% of the area. The built-up areas amounted to 18,469.62 hectare or 9.83% of the total area. In this period, the built-up areas were mostly located within the planned areas. Bare land amounted to about 7,723.71 hectare or 4.11%. The water bodies that represent the Mediterranean Sea, considered the only water body in the study areas counted for 35,748.36 hectare or 19.03%. In 2009, the area faced dramatic changes; the vegetated and agriculture areas declined compared with the year 1996. It reached 115,742.61 hectare, which represented 61.61% of the total area.



Table 6.

Temporal Classified Land Cover Classes

Land cover Classes	Captured years					
	1996 Area/ha	%	2009 Area/ha	%	2014 Area/ha	%
Water bodies	35,748.36	19.03	35,656.56	19.98	35,587.32	19.93
Vegetated & Agriculture	125,918.82	67.03	115,742.61	61.61	104,305.74	55.49
Built-Up Area	18,469.62	9.83	29,569.59	15.74	38,827.08	20.65
Bare Land	7,723.71	4.11	6,883.11	3.66	9,261.85	4.93

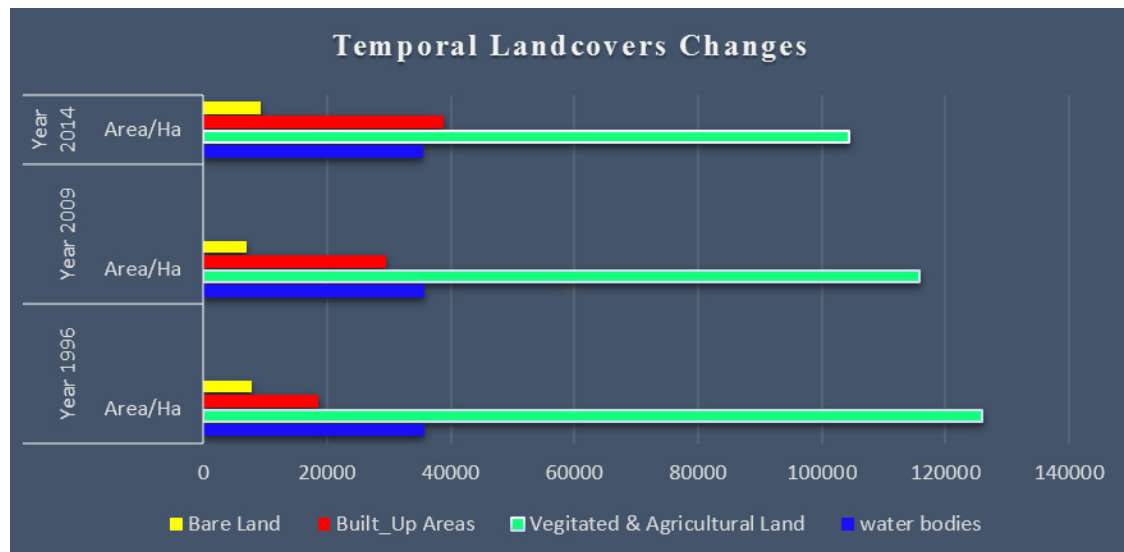


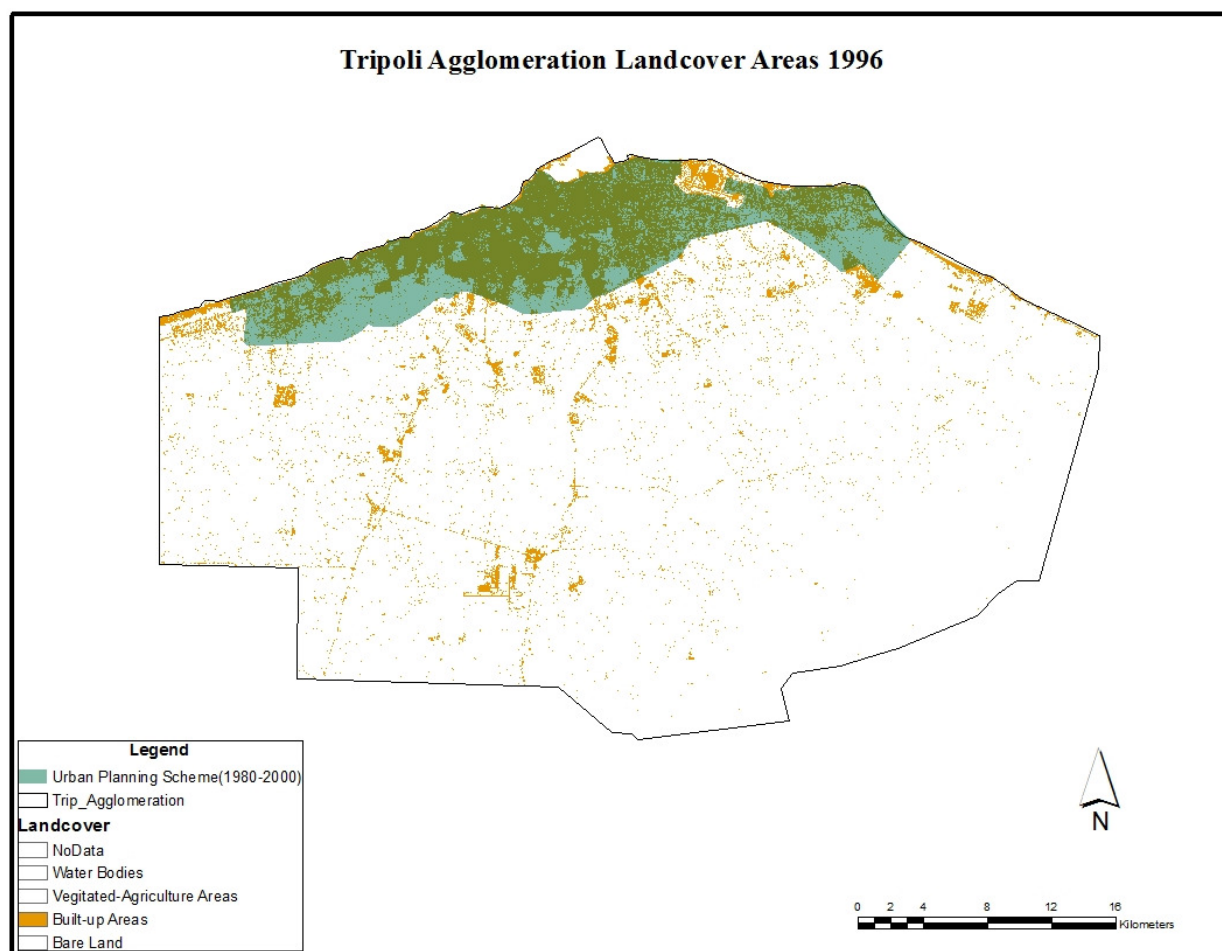
Figure 19. Temporal Behavior of Land Cover

Conversely, the built-up areas increased to become 29,569.59 hectare, or 15.74%. The built-up areas include both the areas within planned areas and areas located outside the borders of planned areas. The areas of the water bodies remained without considerable changes where its areas amounted 35,656.56 hectare and represented 19.98%. The bare land reached 6,883.11 hectare with a proportion of 3.66% from the total area. The period of the 2014 data also faced

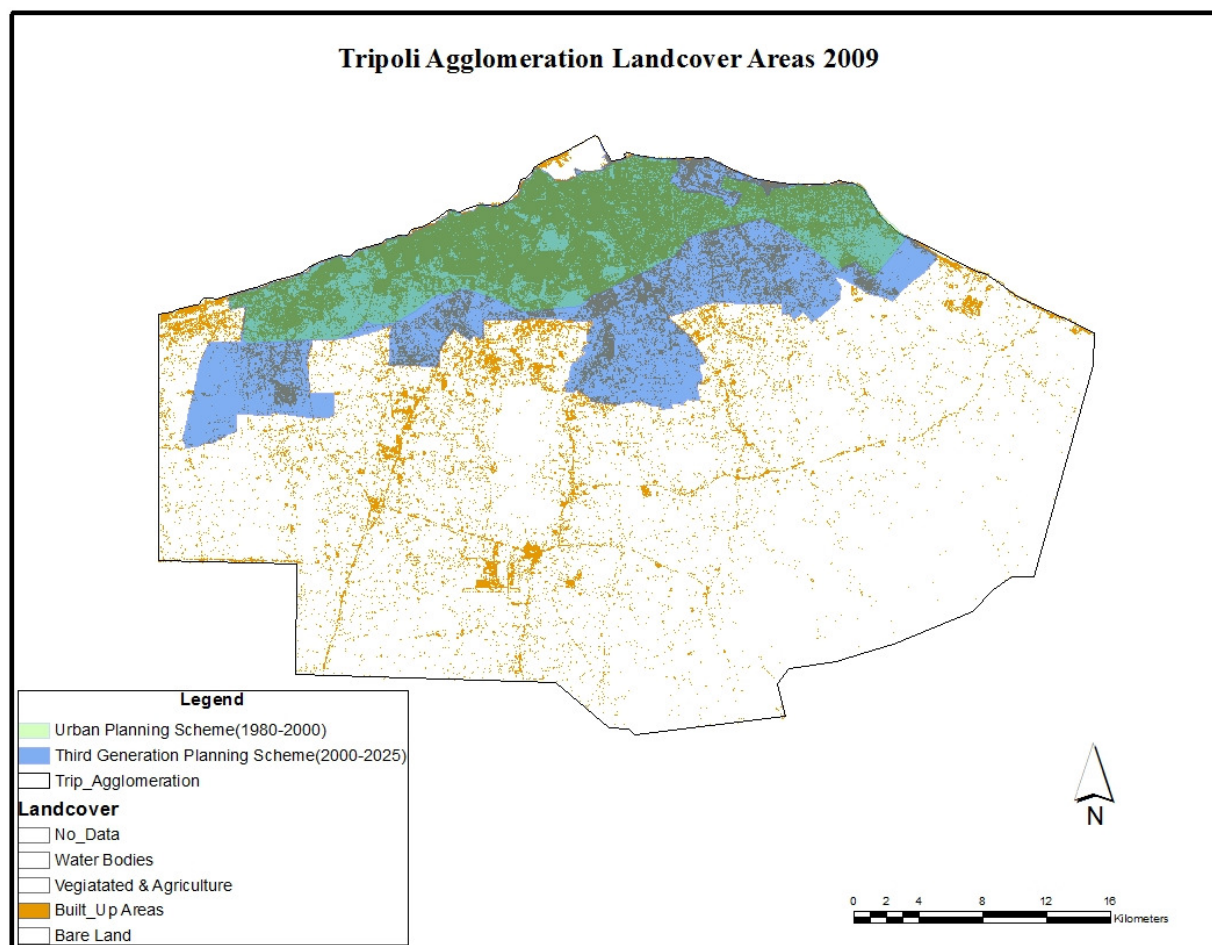
considerable changes, particularly in vegetated and agriculture areas and the built-up areas. The vegetated and agriculture land continued to decline. It reached 104,305.74 hectare with the ratio of 55.49% from the total area, while the study areas saw an increase of built-up areas to 38,827.08 or 20.65% that is clearly shown in Figure 21. The water bodies continue with no considerable changes. The bare land noticed a slight change to reach 9,261.85 hectare or 4.93%.

It can be concluded that the classification results show clearly the proximity of urban sprawl outside the planned areas. The classified images show also an inverse relationship between the built-up areas and vegetated and agriculture areas. Consequently, the urban areas increased dramatically which in turn decreased the vegetated and agriculture areas. As shown in Figures 22, 23, and 24, the 2009 and 2014 images display an expanded urban area outside the planned areas where the street networks of the agglomeration stretch out in different directions, particularly in the southern direction beginning from the city center in the planned areas. In both the 2009 and 2014 images, urban areas were extracted by excluding the other land covers. The second and third planning schemes were overlaid, and this in turn demonstrated the overwhelming area of land previously classified as a vegetated and agriculture, particularly in the second comprehensive planning stages, 1981-2000.

The same images, however, show the major expansion of built-up areas concentrated mostly along the major roads despite the high value and price of land adjacent to these roads. This expansion has created negative impacts on the arable land, which include desertification, water intrusion, scarcity of ground water, and traffic congestion. The vegetated and agriculture land has decreased dramatically due to the vast increase of urban expansion.



*Figure 20.* Extracted Built-Up Area, 1996



*Figure 21.* Extracted Built-Up Area, 2009

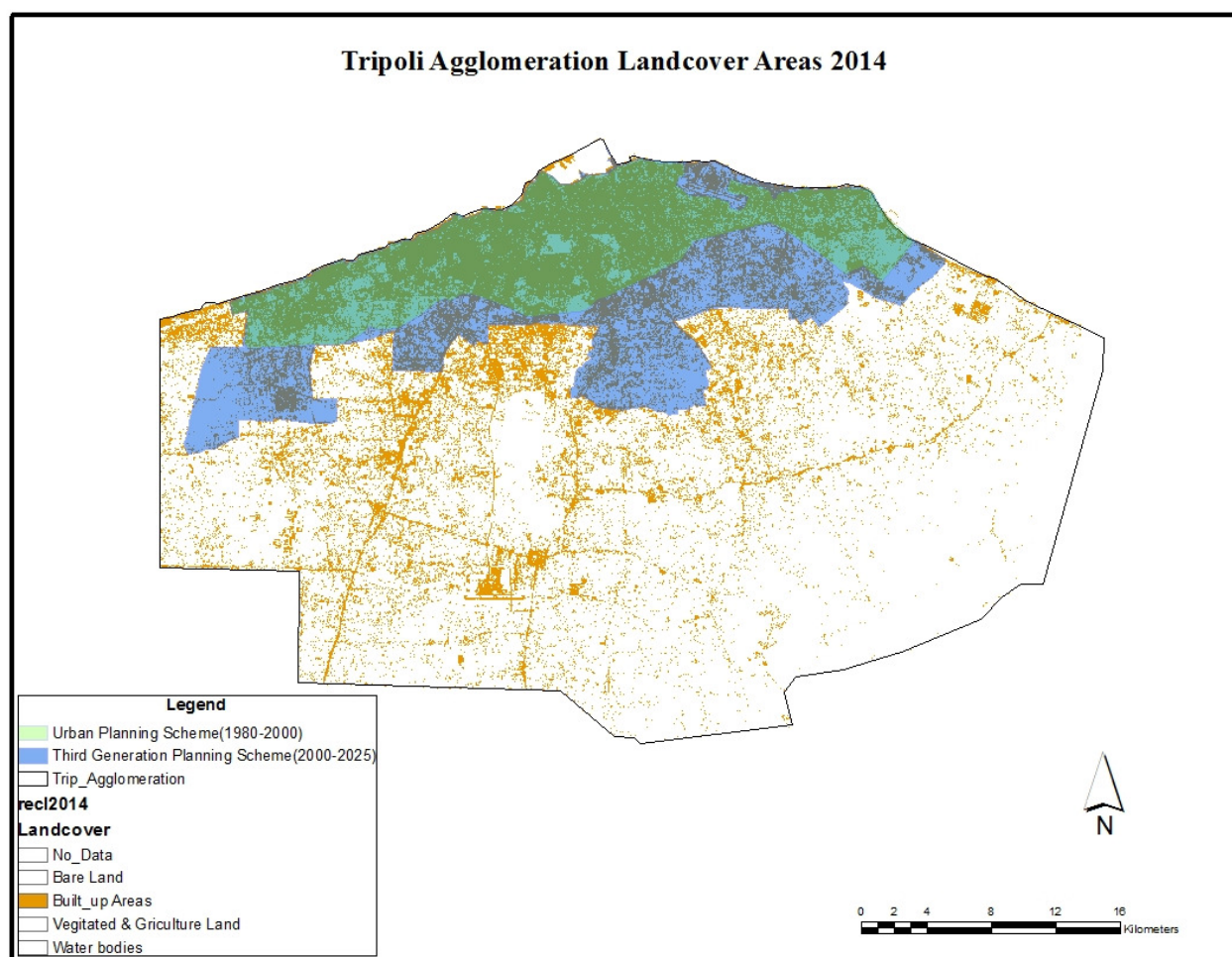


Figure 22. Extracted Built-Up Area, 2014

## **Chapter 6: Major Findings, Conclusion and Recommendations**

### **Major Findings**

The problems of what is known as informal settlements, which are slums or squatter settlements defined as sections of cities or towns characterized by shanties and crudely built houses, normally in the outskirts of cities and inhabited by poor or marked by poor living conditions, are among the main problems facing a significant number of cities in the world, particularly in developing countries. It is both a social and construction problem that needs to be addressed urgently so that it will not have a negative effect on the structure of the area or on the lives of its inhabitants. In the Libyan context, the causes might be slightly different and its treatment might look slightly easier than those in neighboring countries. The reason behind that is the financial ability of the country to deal with this crisis. The findings of my dissertation seem to corroborate, validate, and support most of what was presented in literature reviews as well as what was proposed in my hypotheses. Squatter areas in Libya need to be addressed by applying legislation and raising the level of management and oversight institutions operating in the state to overcome legislative, socio-economic and technical issues that contributed to the incidence and prevalence of the squatter settlements, as follows:

- Lack of existing regulated plans that come with developmental needs and the absence of well managed regulations that foresee population growth. Therefore, the rapid increase of population in both urban and rural areas did not come accompanied by continuous development in the housing sector but rather by the negligence of the authorized bodies that resulted in these squatter areas.

- The rise of internal migration. People move from rural areas to urban and vice versa looking for chances of employment, to obtain dwellings or a piece of land that fits their limited resources into areas that are intended to be subject to city housing codes.
- Poor municipal oversight. The local municipal government as well as the other supporting entities hadn't noticed the seriousness of the problem, and had not taken any action in its early stages to limit the squatter housing growth, so the result was a wider spread of the phenomenon.
- The inability of the state to provide adequate, affordable housing for a large segment of the population characterized by low and middle income, upon whom the responsibility of the state falls. The research also finds that the number of new housing units did not match the speedy growth of population, creating a gap between supply and demand. This occurred because public and private investments in the affordable housing sector were not enough to cover the shortages.
- Administrative corruption, bureaucracy, and the unwillingness of the state to apply the laws were major contributors to the problem. This situation created unbalanced development in urban areas as well as in the countryside.

**Mismanagement of land.** Land management and land tenure regulations are a vital issue to sustain the urban process and success of any formulated and implemented strategic plans. The following are the main points that affected the previous plans:

- Disproportionate control of land by the wealthy that resulted in people building their houses outside the areas they were intended to live in.
- The imbalance in the implementation of the requirements of the urban planning rules and the accumulation of land in certain hands and certain regions resulted in the immigration

of many to major cities in search for affordable housing, employment, and decent living conditions.

- Social reasons, such as clinging to the land, tribe, clan, or hometown.
- Shortcomings in the implementation of the integrated facilities and development projects within the approved areas.
- The regulatory agencies that are expected to implement the rules are not doing their job adequately and are inefficient.
- Unjustified international economic and political embargo during 1990s. Interruption of development in the country resulted in random development because population growth has been outpacing development.
- The retreat of the state from its role as a provider of affordable housing to its citizens.
- High land prices due to low supply.
- Nonexistence of entities commissioned to prepare new plan schemes to be provided for sale.
- Complications in regards to rezoning land agricultural in nature and the legal difficulties in transferring land ownership.
- Buying and selling land that is designated for residential purposes to multiple ownership groups leads to high prices.
- The added complication of regulations when it comes to designating lands for residential purposes.
- Not enforcing the rules regarding violations that contributed to the spread of this phenomenon.



- Conflicts between developmental needs in the cities and policies that are directed towards the conservation of agricultural land and green areas and the difficulties in rezoning these areas to become residential areas.
- The accumulated imbalance between the number of houses needed and the amount of land designated for residential purposes.
- Rapid exodus of citizens from the countryside to the cities and vice versa that occurred outside the recommendation of the national physical plan as well as the regional plan.

## **Conclusion**

This dissertation has addressed the phenomenon of squatter settlements in terms of appearance and prevalence. The first issue was a review of what previous studies about the phenomenon of urbanization and its consequences in most developing countries in order to create an approach to dealing with urbanization's consequences in the Libyan context. The review set the foundation for what is undertaken in this dissertation. Previous studies had exclusively addressed the phenomenon of urbanization and its consequences, such as slums and squatter settlements in developing countries. Accordingly, special attention was given to previous studies in different places of the developing countries, particularly the African continent and its northern region due to the similarity in terms of the occurrence of the phenomenon and its consequences. Most of the sample studies in the literature review were based on the consequences of urbanization. The findings revealed that the phenomenon of urbanization has received attention from many scholars and researchers for its importance in changing the pattern of modern societies that was a result of serious socio-economic and environmental changes. The cases, though, revealed that a group of scholars have criticized this phenomenon that led to unbalanced urban growth and thus uneven social, economic, and environmental changes.

This dissertation expanded the efforts of previous studies in the area of urbanization and confirmed that the acceleration of fast urban growth led to the appearance of dominant, primate cities, such as Tripoli. The consequences of these dominant cities include the appearance of squatter settlements in the major cities in Libya, particularly Tripoli. This domination has coincided with an economic and social transformation, which also resulted in dramatic changes in the Libyan society. These transformations contributed to a temporally uneven movement of population towards the main urban centers, particularly the coastal cities.

This dissertation also evaluated the existing conditions of the study areas in terms of the population growth and the socio-economic and environmental changes. Tracing these conditions is necessary to understand the phenomenon. This dissertation reviewed the concepts and fundamentals of urban planning in Libya and devised concepts applied to the planning process, from preparation to implementation phases of the planning schemes. It also concluded that tracing these themes indicates to what extent these factors participated in the appearance and spread of the squatter settlements in the major cities of Libya, particularly the Tripoli metropolitan area.

The analysis of this dissertation revealed the importance of investigating the problems in greater depth by performing an observational approach to ascertain the reasons behind the appearance of the phenomenon. Theoretically, this dissertation reviewed the most known of urban development theories in order to figure out which urban development theory guided the Libyan urban planning process. However, this revision found that the Libyan urban system does not follow any of those theories because the country has relied on the nature resources such as oil and minerals. The problem also investigated in greater depth by performing an observational approach to ascertain the reasons behind the appearance of the phenomenon. To anchor the dissertation in an empirical way, face-to-face interviews and observations were performed that were useful in

determining the urban fabric fragmentation in the study area. On the other hand, the identity of the interviewees were not mentioned due to the fear of prosecution or harm as a result of their views towards the problem and detect those perpetrators involved with the problem whether those officials or citizens.

The aims of this dissertation were achieved by way of answering research questions and evaluating research hypotheses. Consequently, valuable information has been obtained and insights gained concerning the causes and consequences of the appearance and prevalence of squatter settlements. The reliability and validity of the information and the facts concerning the phenomenon explored in this dissertation produced converging views regarding the origin and prolific nature of the phenomenon of squatter settlements. The importance of differing opinions regarding this phenomenon, which were obtained through direct interviews with various segments of society, clarified and approved the major urban development obstacles and challenges that Libya continuous to face.

The results of methods and analysis of this phenomenon verified that there is clear evidence of the spread of unlawful buildings with time over other land uses. The critical evaluation has revealed different aspects that precipitated and accelerated the spread of the squatter settlements, such as the weakness of urban planning institutions and state policies, particularly planning policies. Therefore, it evaluated the urban planning schemes and its role in resolving and mitigating the spread of the phenomenon. This evaluation was conducted through qualitative and quantitative methods. Based on that analysis, many themes emerged to highlight the main reasons for the emergence and prevalence of unregulated construction around large urban centers in Libya.

The analysis also revealed that despite the small size of the Libyan population, sprawling land, the availability of natural resources, and the state efforts towards overcoming the problem,

the state spending programs did not mitigate or resolve the phenomenon. The results obtained from a majority of the participants and respondents seem to support what the researcher proposed in the dissertation hypothesis. The participants asserted that the reason behind the incidence and spread of the squatter settlements is due to the failure of the state to implement of planning schemes and failure to adequate housing projects to accommodate the growing housing needs. These failures accelerated the appearance and prevalence of squatter areas.

In addition to the qualitative analysis, this dissertation showed the importance of measuring the prevalence of the phenomenon quantitatively by utilizing useful and practical techniques. Previous studies in the field of squatter settlements have proven that image classification is an efficient tool in analyzing land cover, particularly when extracting an urban area from non-homogeneous land use. This dissertation has investigated the unlawful urban sprawl with a focus on squatter settlements that emerged outside of the planned areas. In order to monitor the sprawl, unsupervised classification was performed and thus temporal development of the urban areas was observed and mapped. The dissertation has sought to draw broad findings that could be considered useful and vital for demonstrating the dysfunction of the urban fabric. This method extracted four land covers. The results represented the uniqueness of the Tripoli areas among other cities in the country in terms of the spread of squatter settlements. The findings show that the areas faced high fragmentation and significant changes. These results confirmed one of the dissertation assumptions regarding the dominance and spread of built up areas at the expense of valuable arable land.

It was difficult to find specific and accurate data in the squatter areas of Libyan cities in general and Tripoli specifically; however, more detailed data would have been valuable to address the phenomenon and should be provided in future. Based on that trend, further studies with more detailed data should continue. Further assessment of the squatter settlements in the Libyan context

suggests that the dominant results of this dissertation showed the process of squatter settlements will continue because of several factors: 1. Absence of application of the planning policies. 2. The weakness and instability of administrative divisions in the country. 3. Overall political instability. 4. Absence of state authority.

These factors entail more negative phenomena and legal violations. This dissertation noted recommendations and provided a guide to solve the phenomenon of squatter settlements. Therefore, the dissertation stressed that the state should find alternative measures and incentives for the planning authority, in particular urban planning plans that could eliminate the current phenomenon and maintain developmental sustainability.

### **Recommendations**

After extensive study of the phenomenon of the squatter settlements through direct access to the problem and exploration of the views of residents in slum areas as well as the views of interested parties and experts in the field of urban planning, this study has led to recommendations that could enrich the discussion and in turn work to resolve this phenomenon that is expanding persistently and has entailed environmental and economic destruction. In view of the study of the squatter settlements and their consequences, the recognition of the problem should be the first step toward finding a solution because neglecting it while the population is growing rapidly will lead to the creation of social imbalance that will affect development in the country. Such policies must be practical and should be the product of careful study. Such policies are viewed as preventive measures for the future. To avoid what has happened in the past, planning must be considered:

- A careful study should be made of all the difficulties and the problems considering their various dimensions when formulating and implementing planning schemes. In addition, statistical database should be established and used for more accurate estimates.

- Encourage the contribution of the citizens in putting their thoughts, comments, and actions into future plans, because planning is with people and for people. The contribution of the participants could improve the quality of planning schemes and thus raise the quality of life in these areas.
- This dissertation recommends improving the living environment in the areas that are built outside the planned areas and prioritizing ways to connect these areas to the urban planned areas as soon as possible.
- The state should adopt and emphasize comprehensive planning schemes that will limit the reasons for the growth of squatter areas. The state needs to be attentive to concentrate on comprehensive planning schemes for midsize, small cities, villages, and establishing of new towns as well as planned suburbs in a way that includes requirements for decent housing and providing job opportunities could reduce population densities in major cities by steering them to the new settlements.
- Implementation of regulations and rules that are applicable for planning formulation and implementation to monitor the planning process.
- The state should work towards the decentralization of the urban system by establishment of urban development offices in the lower and higher administrative levels in order to ease the involvement of the citizens especially during the formulation and implementation stages. This will allow them early identification of problems and difficulties during the implementation of the charts in order to find solutions.

**Curbing the phenomenon of squatter settlements and urgent solutions needed.** The following recommendations are vital in order to solve or mitigate the impacts of squatter settlements. The following recommendation also is urgently needed in order to create sustainable

planning and thus resolve the problem of the destructive manifestations such as squatter buildings and breaching applicable laws regarding construction and urban planning process. Refraining temporarily for issuing new construction permits and granting loans for residential, industrial, and commercial purposes outside planned areas particularly within agricultural areas. The state should work towards the development of legislation governing building permits and loans outside the planned areas. It should implement a mechanism to monitor and demand compliance from the authorities who are in charge of monitoring and implementing the rules. In addition, it should take urgent action to provide specific areas that can be used as an extension of existing urban areas in addition to make the procedures easy when it comes to constructing buildings inside the approved areas in terms of providing enough land, ownership transfer, obtaining building permits, and giving easy access to home loans to build within the planned areas and cut down the amount of the required fees.

- Commission planning ministries and other related authorities particularly in transportation and communication in order to review the classification of the existing road system and determine if new protection zones are needed.
- Organize and restructure the issuance of the building permits and monitor economic activity areas where land is needed to be provided. Work toward refining the squatter areas and providing a better monitoring system.
- The need for balanced development policies between different localities.
- Development of a concrete work program to develop remote areas as well as rural areas to encourage reverse migration from the city to the countryside.
- Provide considerable financial compensation to the landowners whose properties were removed.

- Establish a clear and stable housing policy that keeps pace with the growth of the population.



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